

ENVIRONMENTAL COST ANALYSIS SYSTEM (ECAS)

USER MANUAL



DRAFT v 1.7
3/15/2002

This page left intentionally blank.

ECAS USER MANUAL, DRAFT v 1.7

1.0 INTRODUCTION

1.1 Purpose

1.2 What is ECAS?

1.3 ECAS Data Hierarchy and Flow

1.3.1 Description of the Environmental Cost Element Structure (ECES)

1.3.2 Definition of Key Names and Terms Used in ECAS

1.3.3 Primary functions and screens required to submit and view data in ECAS

1.4 ECAS Navigation

1.4.1 ECAS Screens divided into parts

1.4.2 ECAS HELP

1.4.3 Displaying and Entering/Changing ECAS Data

1.4.4 Menu Button Bars

1.4.5 Screen Button Bars

1.5 Accessing ECAS (WEB address: <http://ecas.netl.doe.gov/>)

1.5.1 Logging into ECAS

1.5.2 Security and Access Control

1.5.3 SPECIFY TASK SCREEN (Additional Features in Sections 2.1, 2.2 and 2.3)

2.0 ECAS PRIMARY DATA ENTRY FUNCTIONS FOR LIFE CYCLE PHASES 01 – 04 AND 08

2.1 Creating/Changing/Deleting a Task Using the MODIFY TASK SCREEN

- 2.2 Creating a Life Cycle Phase Using the SPECIFY TASK SCREEN
 - 2.2.1 Assessment Phase – Phase 01, Remedial Action – Phase 04, and Program Management – Phase 08
 - 2.2.2 Studies Phase – Phase 02
 - 2.2.3 Design Phase – Phase 03
- 2.3 Creating a List of Reference Tasks from the SPECIFY TASK SCREEN
- 2.4 Entering Type of Site Data Using the SITE TYPE SCREEN
- 2.5 Entering data for ECES (Work Breakdown Structure) Elements for Life Cycle Phases 01, 04, and 08 Using the GENERIC ECES ITEMS SCREEN
- 2.6 Subtask Identifiers for the GENERIC ECES ITEMS SCREEN
- 3.0 ECAS SECONDARY DATA ENTRY FUNCTIONS FOR LIFE CYCLE PHASES 01 – 04 AND 08
 - 3.1 Using the Treatment Train Drop Down List
 - 3.2 Special Screen Formats for Entering ECES Elements and Secondary Parameters
 - 3.2.1 Collection of Test Samples (SCREEN FOR ALL 07.XX ECES ELEMENTS except 07.15)
 - 3.2.2 Collection of Test Samples - Monitoring Wells (SCREEN FOR 07.15 ECES ELEMENT)
 - 3.2.3 Analysis of Test Samples (SCREEN FOR ALL 08.XX ECES ELEMENTS)
 - 3.2.4 Management of Test Samples (SCREEN FOR ALL 09.XX ECES ELEMENTS except 09.09)
 - 3.2.5 Management of Test Samples - Modeling (SCREEN FOR 09.09 ECES ELEMENT)
 - 3.2.6 Air Sparging and Soil Vapor Extraction (SVE) (SCREENS FOR ECES ELEMENTS 25.02 AND 25.17 RESPECTIVELY)
 - 3.2.7 Caps (SCREENS FOR ECES ELEMENTS 19.04 AND 19.05 RCRA CAPS)
 - 3.2.8 Grout Injection (SCREEN FOR ECES ELEMENT 29.02)

- 3.2.9 Wells Entry - Extraction and Injection Wells (SCREENS FOR ECES ELEMENTS 18.01 AND 18.02 RESPECTIVELY)
 - 3.2.10 Disposal Methods (SCREEN FOR ALL 33.XX ECES ELEMENTS)
 - 3.2.11 Sub Contracting Strategy (SCREEN CAN REFER TO ANY ECES ELEMENT)
 - 3.2.12 Design Attributes [SCREEN FOR ENTERING DATA THAT APPLIES ONLY TO PHASE 03 (Design)]
 - 3.2.13 Characterization [SCREEN FOR ENTERING DATA THAT APPLIES ONLY TO PHASE 02 (Studies/Characterization)]
- 4.0 ECAS PRIMARY DATA ENTRY FUNCTIONS FOR LIFE CYCLE PHASES 05 (OPERATIONS AND MAINTENANCE) AND 06 (SURVEILLANCE AND LONG TERM MAINTENANCE)
 - 4.1 Creating a Task using the SPECIFY TASK SCREEN
 - 4.2 Creating a Life Cycle Phase for Phases 05 and 06 using the SPECIFY TASK SCREEN
 - 4.3 Entering Type of Site Data Using the FACILITY TYPE SCREEN
 - 4.4 Selecting and Entering Data for a Specific Year Using the OM FACILITY COST SCREEN
 - 4.5 Entering data for ECES (Work Breakdown Structure) Elements for Life Cycle Phases 05 and 06 Using the Generic OM ECES ITEMS SCREEN (excludes 11.XX, 12.XX, 13.XX, 21 - 30.XX, and 34.XX ECES Elements)
- 5.0 ECAS SECONDARY DATA ENTRY FUNCTIONS FOR LIFE CYCLE PHASES 05 AND 06
 - 5.1 OM Costs by Treatment Train (SCREEN FOR 11.XX, 21 – 30.XX, AND 34.XX ECES ELEMENTS)
 - 5.2 OM Storage Costs (SCREEN FOR ALL 12.XX ECES ELEMENTS) and OM Disposal Methods (SCREEN FOR ALL 13.XX ECES ELEMENTS)
 - 5.3 Using the USE RA TECHNOLOGIES FOR OM COSTS Function
- 6.0 ACCESSING AND VIEWING THE REPORTS
 - 6.1 Report Overview

Appendix A A BRIEF DESCRIPTION OF THE ENVIRONMENTAL COST ELEMENT STRUCTURE (ECES)

A-1.0 BACKGROUND

A-2.0 WHAT IS ECES

A-3.0 WHAT IS WBS AND COA

A-3.1 THE WBS

A-3.2 CODE OF ACCOUNTS

A-3.3 WBS AND COA DIFFERENCES

A-4.0 HOW ECES IS ORGANIZED

A-4.1 GENERAL INFORMATION

A-4.2 EXPLANATION OF THE ECES LEVELS

A-4.3 NUMBERING OF THE ECES LEVELS

A5.0 MAJOR ELEMENTS OF LEVEL 1

A-5.1 GENERAL INFORMATION ON LEVEL 1

A-5.2 THE SIX GENERIC LIFE-CYCLE PHASES OF LEVEL 1

A-5.3 LEVEL 1 COST CATEGORIES

A-5.3.1 PHASE 1

A-5.3.2 PHASE 2

A-5.3.3 PHASE 3

A-5.3.4 PHASE 4

A-5.3.5 PHASE 5

A-5.3.6 PHASE 6

A-5.3.7 PHASE 7

A-5.4 A LEVEL 1 EXAMPLE

A-6.0 ECES SUB-PROJECT IDENTIFIERS

A-7.0 MAJOR ELEMENTS OF LEVEL 2

A-7.1 GENERAL

A-7.2 LEVEL 2 EXAMPLE

A-8.0 SPECIFIC ELEMENTS OF LEVEL 3

A-9.0 LEVEL 4 AND BELOW

A-9.1 Specific elements of Phase 4: *Capital Construction*

A-9.2 Specific elements of Phase 5: *Operations and Maintenance*

A-9.3 Specific elements of .9x - *Other Elements*

A-10.0 HOW TO USE ECES

A-11.0 CAVEATS AND EXCEPTIONS

A-12.0 ECAS AND ITS RELATIONSHIP TO ECES

A-13.0 UPDATING THE ECES

1.0 INTRODUCTION

1.1 Purpose

The purpose of this users manual is to provide you with the necessary information and the basic steps required to use the Environmental Cost Analysis System (ECAS) to store and retrieve cost data for completed and active Environmental site clean up projects. The data resides in an Oracle database and is displayed and stored in formats that reference the Environmental Cost Element Structure (ECES).

1.2 What is ECAS (Environmental Cost Analysis System)?

ECAS is an Internet accessible computer system that provides an innovative way of storing, retrieving, and reporting historical costs for completed and active phases of DOE environmental projects. ECAS can be used by anyone having Internet access and Microsoft's Internet Explorer version 4.0 or higher. **Netscape currently cannot be used to access ECAS. THE WEB ADDRESS FOR ECAS IS: <http://ecas.netl.doe.gov/>.** See Section 1.5.2 for more details on security.

1.3 ECAS Data Hierarchy and Flow

ECAS relies heavily on the Environmental Cost Element Structure (ECES) for format and to identify the type of costs entered for clean up projects. The ECES is a comprehensive hierarchical list of work activities (tasks, items, or products) that may be required to accomplish *environmental restoration, waste management, facility decontamination and decommissioning, or other environmental projects*. The ECES is work breakdown structure comprised of activities conducted throughout the total duration (life-cycle) of a project. Many of the field names, headings, concepts, technologies and HELP descriptions in ECAS reference ECES components.

1.3.1 Description of the Environmental Cost Element Structure (ECES)

A brief description of the ECES is included in Appendix A. **It is strongly recommended that all potential users of ECAS not familiar with ECES review this appendix before proceeding in this manual.**

1.3.2 Definition of Key Names and Terms Used in ECAS

Operations Office – a DOE site such as Oak Ridge or Savannah River that has management responsibility for a task or project entered into ECAS.

Note: in ECAS, *PROJECT* AND *TASK* are assumed synonymous.

Task – a uniquely identifiable collection of work activities and costs that are required to clean up and keep clean an individual or group of environmentally contaminated site(s). In ECAS, a task is assigned a unique identifier by the responsible Operations Office. The identifiers must be unique for all tasks within the applicable Operations office. Task identifiers can be up to 15 characters (numbers, letters, and certain special characters) in length.

Phase – any one of 7 time related divisions that the work and costs for a task can be logically and chronologically assigned. A phase represents the time frame when a specific type of work (and its associated (costs) are performed. Phases are also referred to as Level 1 (the highest level) in ECES and also as life-cycle phases. The 7 life-cycle phases arranged in the sequence in which they are usually accomplished are:

Phase 01: Assessment

Phase 02: Studies/Characterization

Phase 03: Design

Phase 04: Remedial Action/Construction

Phase 05: Operations and Maintenance

Phase 06: Surveillance and Long-Term Maintenance

Phase 08: Program Management Support and Infrastructure

(Cross cutting Level 1 element (not a life-cycle phase – used to capture costs at the program level that cannot readily be segregated into tasks or projects).

ECES Element – any specific activity in any one of 5 levels of activities that comprise the ECES structure.

Level 1 is the Phase, which is designated by using the numbers 1 through 8 (excluding 7) to represent the seven life cycle phases in the first column or first space in the ECES structure. For

example, 1.XX.XX represents Phase 1 activity. Program management and overhead costs are assigned the number 8 in first column (i.e., 8.XX.XX).

Level 2 of the ECES includes 34 major elements necessary to perform work in an environmental project

Level 3 of the structure consists of more detailed elements required to perform a Level 2 ECES activity. Level 3 elements are subordinate to a Level 2 element. **It is recommended that activities included in ECAS go down to at least level 3.**

Levels 4 and 5 of the ECES structure **are optional**. They contain even more detailed activities than level 3. Level 4 elements are subordinate to a level 3 element and level 5 elements are subordinate to a level 4.

See **Figure 1** for an example of how levels are related and referenced in ECAS:

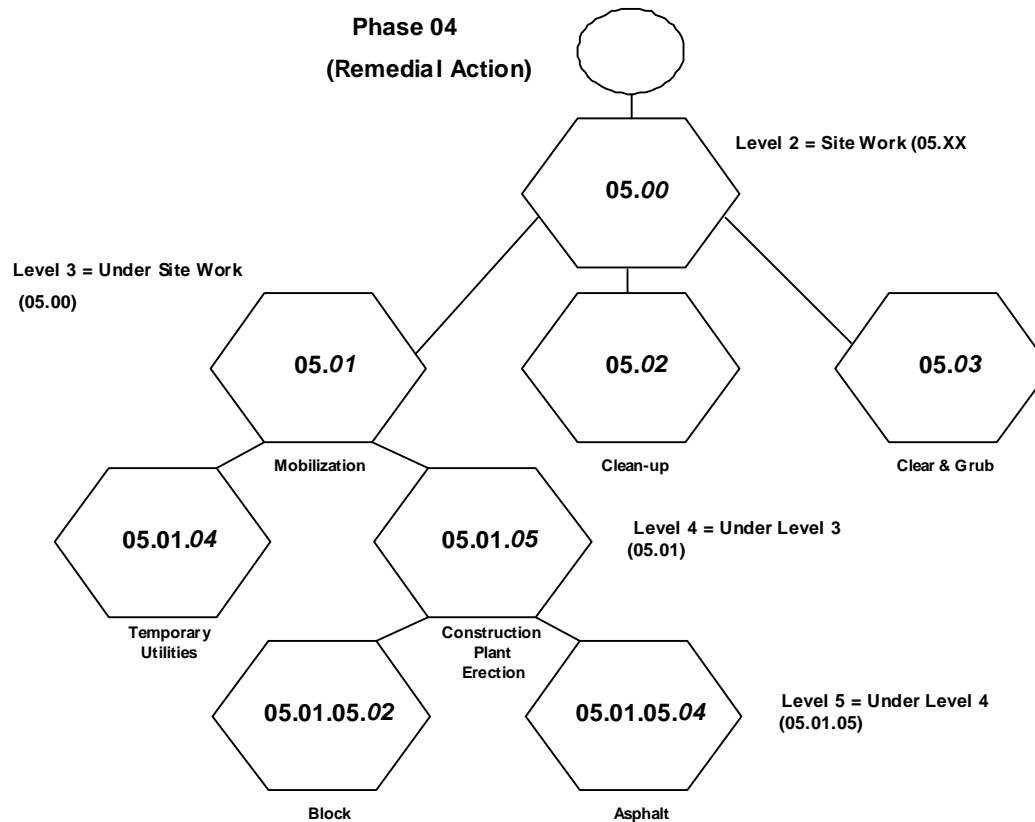


Figure 1

Secondary parameters – factors that impact the design and cost for an activity or technology referenced by an ECES element. For example, when drilling an Extraction Well (ECES level 3 element 18.01), both the diameter of the well and the depth drilled are secondary parameters.

- 1.3.3 Primary functions and screens required to submit and view data in ECAS for phases 01 – 04, and 08 are arranged in the recommended order of use. An overview of these functions follows. Specific details on how to use the screens are in section 2.

Note: Most screens in ECAS are divided into 2 distinct parts. The **LEFT** side of the screen contains **MENU BUTTON BARS**. These bars are used to select specific *functions* and the associated screens required to accomplish that *function*. The screen required for the **FUNCTION APPEARS** on the **RIGHT** side of the screen. In most, but not all cases, clicking your mouse on a **MENU BUTTON BAR** will erase the part of the screen currently displayed on the right side. **Figure 2** shows an ECAS screen with the 2 parts identified.

Left Side of Screen: Menu
Button Bars

Right Side of Screen: Specific
Function

Internet Explorer

Specify Task

NON-QA

OPS Office: Task: Phase: Site Location:

* indicates required field OWNER = United States Dept. of Energy

Operations Office: -CHOOSE- Refresh

Site Location: -CHOOSE-

Program: -CHOOSE-

Task Number: -CHOOSE- Modify Task Task Desc

Task Start Date: MMM-9999 Comment

Task End Date: MMM-9999 Comment

Total Burdened Task Cost: 0 Cost In Current Dollars: 0

Phase ID: -CHOOSE- Comment

Cost Indicator: Rolled Up ☒ Entered By Phase ☐

Total Burdened Phase Cost: 0 Cost In Current Dollars: 0

Phase Start Date: * Month: MMM Year: 9999 Comment

Phase End Date: * Month: MMM Year: 9999 Comment

Phase Centroid Date: * Year: 9999 Comment

Phase Type UOM: English ☒ Metric ☐

ACE Team
Applied Cost Engineering

Specify Task
Design Attributes
Characterization
Site Type
Site Work
Enter ECES
Treatment Trials
Col, Ana, Man, Mod
Disposal Methods
Subcontract Strat
Select Site Owner
Copy
D&D Technologies
View Reports
Exit

Start Microsoft Word - ecasMan... ECAS v 2.1 - Microsoft Int... ECAS v 2.1 - Microso... 4:30 PM

Figure 2

1.4 ECAS Navigation

- 1.4.1 As previously mentioned, most ECAS Screens are divided into 2 distinct parts. The Left side of the screen contains **MENU BUTTON BARS**. These BARS are the primary means of navigating (selecting a function or activity) in ECAS. Clicking on a **MENU BUTTON BAR** with your mouse will replace the screen that appears on the right side with a screen used to select or enter data for the function referenced by the **MENU BUTTON BAR**.

Note: In many cases, after clicking on a **MENU BUTTON BAR** and a new screen appears on the right, some Button Bars may be disabled (cannot be accessed). Button Bars are disabled when the functions they represent are invalid for the screen on the right.

1.4.2 ECAS HELP

Almost all ECAS screens provide online Help to users. Clicking (your mouse) on any field name or heading on a screen that appears in a **blue colored** font will create a pop up window which contains a description of the field, minimum and maximum values, field required or optional indication, and other self explanatory information. Clicking on the X in the upper right corner of the Help screen will close it.

Some screen data entry fields which contain quantities such as the diameter of a well, the depth of a well, the thickness of a CAPPING layer etc. will display minimum and maximum values for a field when the mouse cursor is moved into a field.

Some screens also contain HELP icons (a block with a yellow background) and Help in black font. Placing your mouse cursor (arrow or hand) on the icon will display help information.

A red asterisk indicates required fields (data must be entered before a screen can be SUBMITTED to update the ECAS database) after the field name.

See **Figure 3** for an example of an ECAS HELP screen.

.25 .17 .00 .00 Soil Vapor Extraction - Microsoft Internet Explorer

Blue Font Indicates Help Information Available

Red Asterisk Indicates A Required Field

Help Icon

Extraction Well

Depth to Top of Screen: UOM:

Screen Length: UOM:

Number Of Wells: *

Size/Diameter: UOM:

Depth: UOM:

Screening Material:

Casing Material:

Drilling Method:

HORIZONTAL TRENCH

Trench Depth: UOM:

Screen Length: UOM:

Safety Protection Level:

Level A	Level B	Level C	Level D	Level E
<input type="text" value="0"/> <input type="text" value="0"/> %	<input type="text" value="0"/> <input type="text" value="0"/> %	<input type="text" value="0"/> <input type="text" value="0"/> %	<input type="text" value="0"/> <input type="text" value="0"/> %	<input type="text" value="0"/> <input type="text" value="0"/> %

Figure 3

1.4.3 Displaying and Entering/Changing ECAS data

Most ECAS screens are accessed and displayed the same way whether displaying existing (previously entered) or entering new data. It is obvious on most screens by actual values displayed in screen fields that a record(s) (data fields previously entered into the ECAS database) exists for a screen.

In a list of choices, selections are chosen by double clicking and are indicated as selected by an arrow →. Once selected, all choices remain selected until purposely de-selected. To de-select a selection, double-click. **Note:** Multiple selections are selected solely by double clicking on each selection. The SHIFT and CTRL keys cannot be used. **NOTE:** Only a few of the possible selections are shown in any given window. The scroll bars allow you to view the hidden selections. When deleting or changing selections, scroll through all possible selections to determine which selections have been selected.

In ECAS, certain functions accessed by the **MENU BUTTON BARS** will provide **a limited list of ECES Elements** that apply only to group of related functions. **For example**, clicking the **BUTTON BAR labeled SMA** (Sampling, Monitoring, and Analysis of tests) will provide only the 07.XX, 08.XX and 09.XX ECES Elements on the right side of the screen. Clicking on the **SITE WORK BUTTON BAR** will display only the 05.XX ECES Elements. However, these specific Elements can also be accessed from the display of all ECES Elements obtained by clicking on the **MENU BUTTON BAR** previously referenced.

1.4.4 Menu Button Bars (left side of most screens)

There are 15 **MENU BUTTON BARS THAT** appear for functions applicable to Phases 01 – 04 and 08. See **Figure 4** for a display of the **BARS**. Table 1 contains brief explanations of the function of each bar.

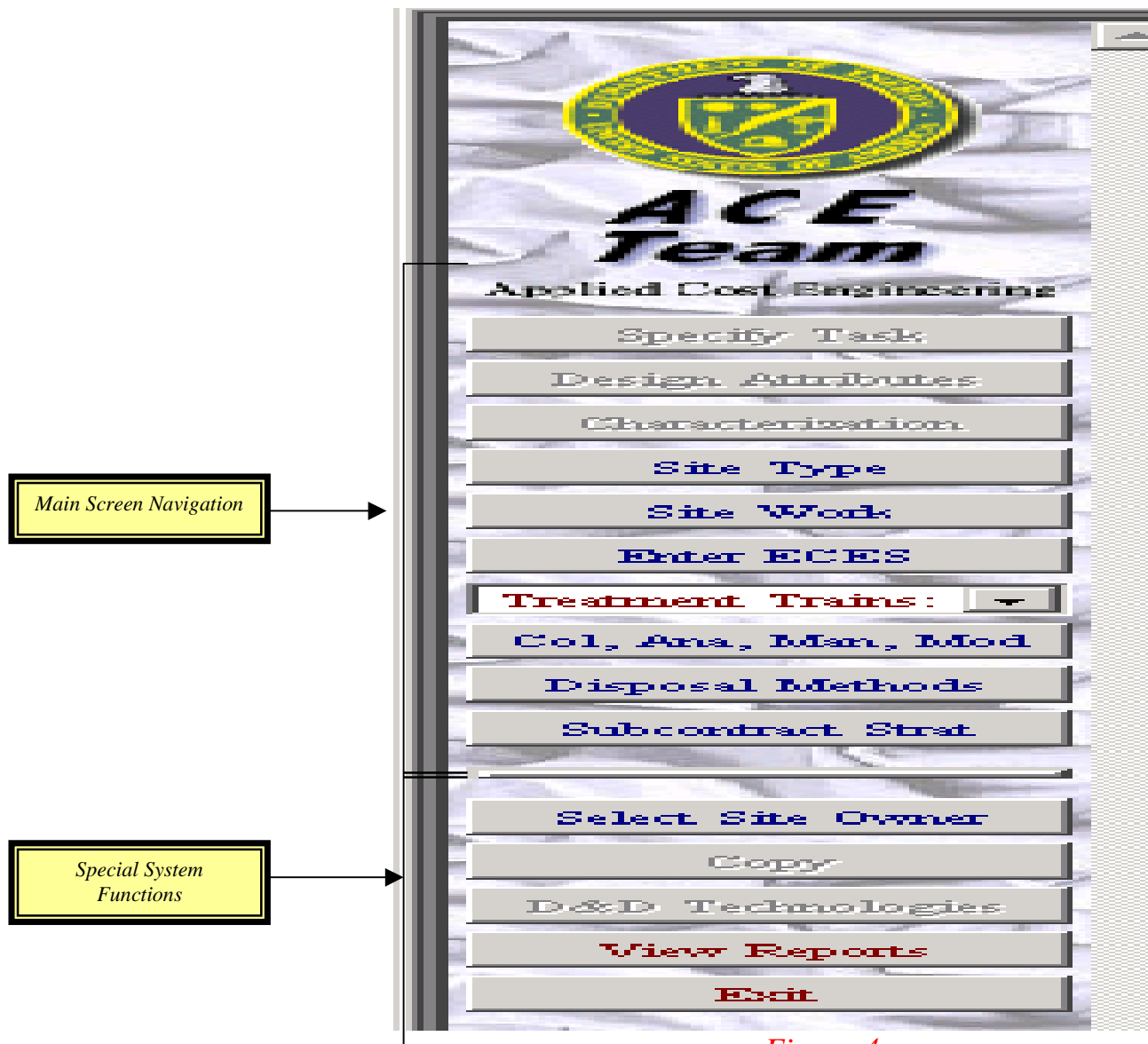


Figure 4

Table 1

The **BUTTON BAR** Captions, its function and the screen each one is used to access are shown below.

Button Bar Caption	Function	Screen Called	Remarks
Specify Task	Return to the Specify Task screen from any other screen	Specify Task (for the selected task and phase)	N/A
Design Attributes	Display a screen with data fields that are only applicable when the phase selected is 03.	Design Attributes	Optional screen
Characterization	Display a screen with data fields that are only applicable when the phase selected is 02	Characterization	Optional screen
Site Type	Display a screen used to describe pertinent characteristics of the site(s) to be cleaned up such as type of media contaminated, contaminants, size of site etc.	Site Type	Mandatory screen – data for at least 1 site type is required. Multiple site types can be entered for a Task and phase.
Site Work	Display a screen providing access to ECES ELEMENTS 05.XX only	Site Work	All levels (2 – 5) are accessible. Note: Some levels and specific elements may not be valid for a particular phase.
Enter ECES	Display a screen providing access to all levels of ECES ELEMENTS	ECES ELEMENTS	Note: Some levels and specific elements may not be valid for a particular phase.
Treatment Train	Displays a drop down menu that provides access to custom screen formats for Capping, Soil Vapor Extraction, Air Sparging, and Pump & Treat	Multiple screens	Additional screens for Soil Removal, Soil Stabilization, Decontamination and Demolition consist of selected ECES ELEMENTS which may apply to the Drop Down selection
Collection, Analysis, Management and Modeling	Display a screen providing access to all levels of ECES ELEMENTS only for 07.XX (Collection of test samples), 08.XX (Analysis of test samples) 09.XX (Management of test samples)	Multiple screens	Screens can also be accessed using Enter ECES button bar

Button Bar Caption	Function	Screen Called	Remarks
Disposal Methods	Display a custom screen format that can apply to all 33.XX ECES elements	Disposal Methods	Contains data such as distance to storage facility, container s used for storage, onsite or offsite facility, mode of transportation etc.
Select Site Owner	Display a drop down menu of site owners. This allows for the acceptance of projects from non-DOD agencies.	Site Owner.	Note: Selecting this button will delete all information on the current screen. Note: Depending on the selection, some button names will change.
Subcontracting Strategy	Display a custom screen format that is used to display how work was done for a specific activity (ECES element)	Subcontracting Strategy	Contains data such as length of workweek, amount of competition and who did the work (prime or subcontractor) for a selected activity.
D&D Technologies	Display a drop down menu of Decontamination & Demolition Technologies	D&D Technologies	
View Reports	Develop a detailed or summary report	View Reports	Choose report type first. This affects the next set of choices.
Exit	Used to exit ECAS	N/A	Note: There are other non-recommended ways of exiting ECAS. Use of any of these alternatives may prevent future access to ECAS without help from the Systems Administrator
Copy	Function not yet available in ECAS		

Table 1

1.4.5 Screen Button Bars

Many ECAS screens have 4 Buttons on the bottom line of the screen. See **Figure 5** for an example of the buttons. An explanation of their use is contained in Table 2.

.07 .00 .00 .00 INVESTIGATIONS AND MONITORING/SAMPLE COLLECTION - Microsoft Internet Explorer

Comment

** indicates a required field*

QA/QC Level Screening (Formerly Level 1 & 2): %

QA/QC Level Definitive (Formerly Level 3, 4, & 5): %

Contaminated Area: UOM:

Method of Sample Collection:

Air sampling pump
 Bailer
 Biological indicators
 Bladder pump
 Cable tool

Frequency: UOM:

Number of Samples: Survey Area: UOM:

Safety Protection Level: [Help](#)

Level A	Level B	Level C	Level D	Level E
<input type="text" value="0"/> %	<input type="text" value="0"/> %	<input type="text" value="0"/> %	<input type="text" value="0"/> %	<input type="text" value="0"/> %

Screen Button Bar

→

Submit Cancel Delete Subtask

Figure 5

Table 2

The **SCREEN BUTTON BAR** captions, function and the screen each one is used to access are shown below.

Button Name	Function
Submit	Modify (if a record exists) or create a record in the ECAS database from the data on the screen. A “Record Added” or “Record Updated” will be displayed indicating the Submit action is complete.
Cancel	Disregard the data entered on the screen. Database will not be updated from the screen. If screen is a pop up screen (created by another screen), it will close and return the user to the calling screen.
Delete	Remove the data (record) displayed on the screen from the database. Valid only if the data was previously entered in the database.
Subtask	Used to create one or more records for the same level 3 ECES element. A suffix is appended to the level 3 Element to identify the record. Suffixes start with capital A, proceed to capital Z, and then go from lowercase a to lowercase z for a total of 52 possibilities. For example, multiple records that can contain different secondary parameters and/or costs for an extraction well, ECES level 3 = 18.01, would be identified as 18.01A, 8.01B etc. A record must exist for the base level 3 element before any subtask record can be created. Subtask records can only be built for level 3 ECES elements.

Table 2

1.5 Accessing ECAS

1.5.1 Logging into ECAS

After entering the ECAS Internet address <http://ecas.netl.doe.gov> into Internet Explorer, the screen shown in **Figure 6** appears. **Note: Netscape currently cannot be used to access ECAS.** Clicking on the **System Login** button that appears at the bottom of the screen will bring up the screen shown in **Figure 7**, the actual ECAS Login screen.

1.5.2 Security

Internet access is limited by userid and password. Access to the actual cost data in the system is restricted as follows:

1. All DOE personnel will have "read-only" access to ECAS and all details.
2. DOE Contractors have access to ECAS and all detail data for their own sites.
3. DOE Contractors from another site wanting access to ECAS detailed information for a specific site, will need to contact and get approval from the respective Site.
4. DOE contractors otherwise will only have "read-only" access to summary level canned report (at this time).
5. Only designated DOE contractors will have "read-write" access for their own site data.
6. Fed POC information will be included in the summary report sheet, for getting clarification regarding project cost data or other related information.
7. Data will be QA by NETL before the information is included in the production database (i.e., what everyone can see).

Anyone wanting access to the ECAS database cost data or ECAS "read-only" access should contact Terry Brennan or Jake Appetta, NETL. Terry Brennan and Jake Appetta can be contacted on phone at 412-386-5989 and 412-386-4762.

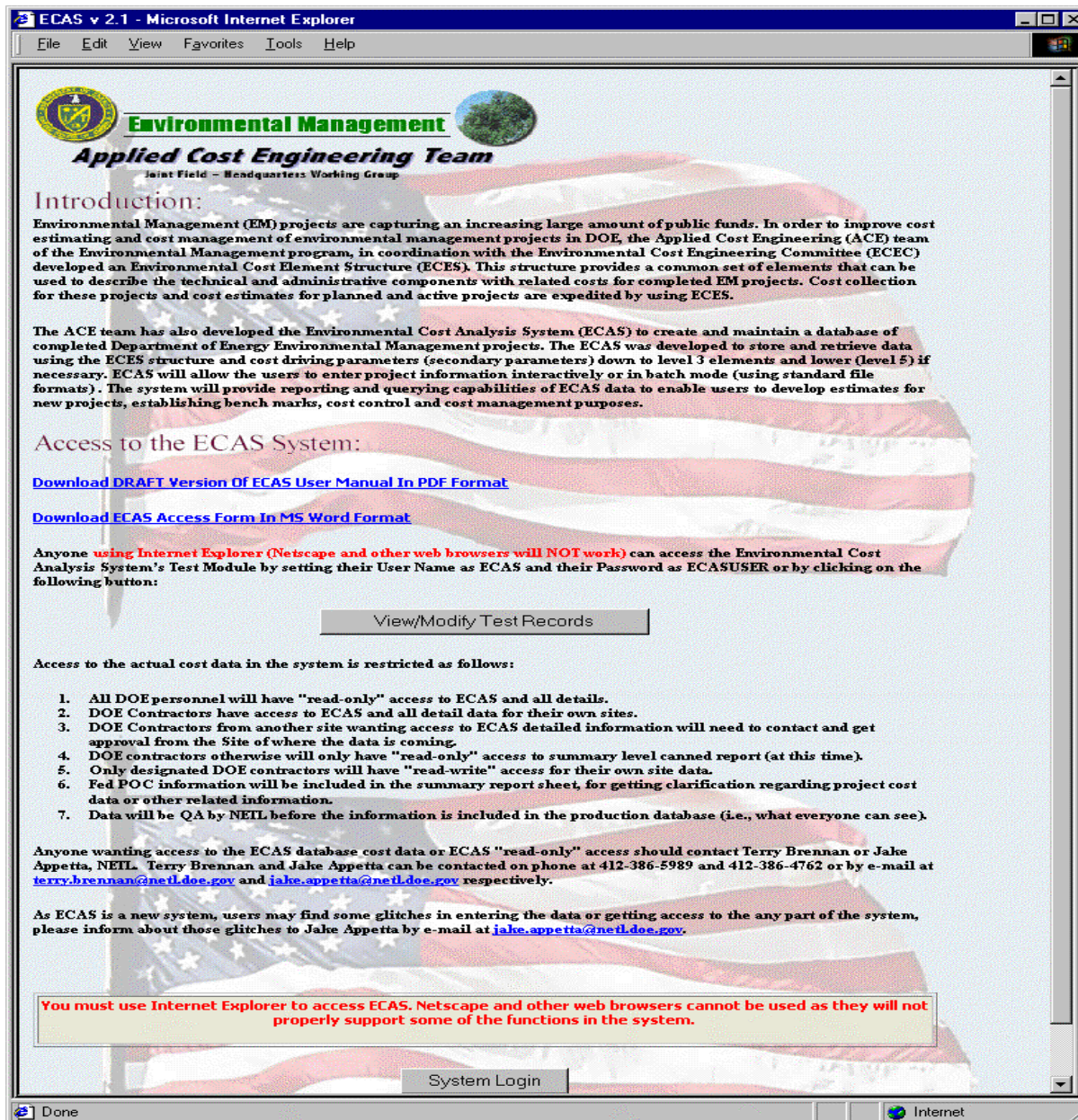


Figure 6

ECAS Login - Microsoft Internet Explorer

Environmental Cost Analysis System (ECAS)

Please enter your ECAS Log-In Information:

User Name:

Password:

Figure 7

The screen shown in **Figure 7** above must be used to gain access to ECAS. The User Name and Password (referred to as an account) entered on the screen must reference an existing ECAS account set up for each individual User. Procedures for obtaining accounts are displayed on the previous screen. Limited access (to test and demonstration data only) can be obtained by anyone using ECAS as the User Name and ECASUSER as the password.

After entering a valid User Name and Password for ECAS and then clicking on the Enter ECAS button, you will be logged into ECAS and the screen shown in **Figure 8** below, the **PLEASE SELECT A SITE OWNER** screen will appear. Please choose from the drop down selections and then click on the **SUBMIT** button. This will bring you directly into the **SPECIFY TASK** screen which is shown as **Figure 9**.

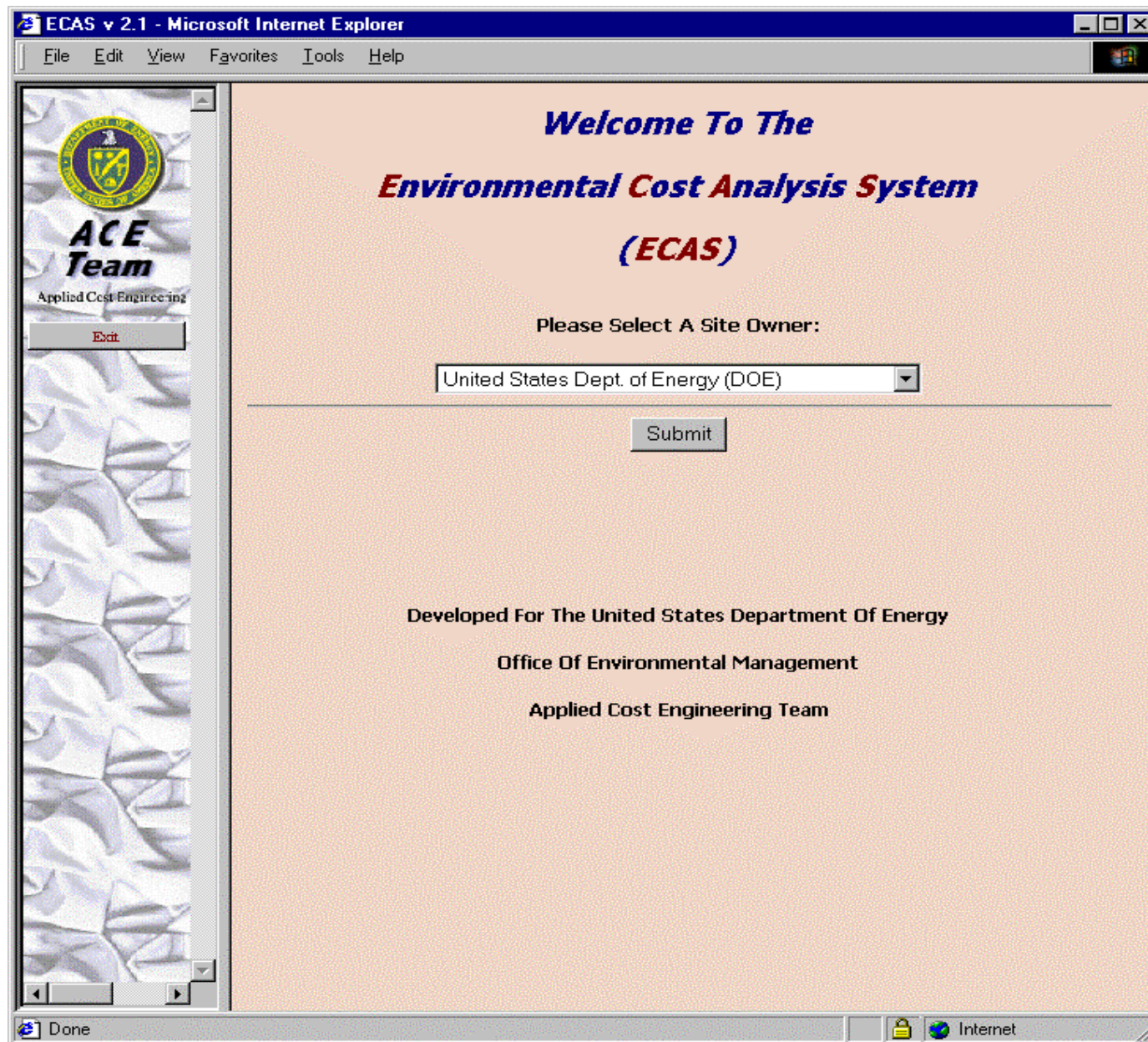


Figure 8

1.5.3 SPECIFY TASK Screen

Overview of screen

This screen is used to select the task and life cycle phase for which data is to be viewed or entered. **All subsequent screens accessed after Specify Task will contain data that relates only to the task and phase selected. You cannot leave the Specify Task screen until a valid task and phase has been selected or created.** Figure 9 shows the Specify Task screen with annotations for the 6 uses listed below.

The **SPECIFY TASK** Screen also can be used to:

- (1) Create a new task or change an existing task in the ECAS database.
- (2) Create a new (life cycle) phase or change an existing phase for a task in the ECAS database.
- (3) Access special screens used to enter Characterization (phase = 02) type data and Design Attribute type data Phase = 03.
- (4) Access special screens designed specifically to enter data for Phase 5 (Operations and Maintenance) and Phase 6 (Long Term Surveillance and Monitoring).
- (5) Enter comments up to 500 characters in length to describe a task and phase related data fields on the screen.
- (6) Quality Approval of all data entered for the phase by the ECAS Quality Assurance (QA) administrator.

6

Indicates Quality Approved Status.

NON-QA

ECAS v 2.1 - Microsoft Internet Explorer

Specify Task

OPS Office: Task: Phase: Site Location:

* indicates required field OWNER = United States Dept. of Energy

Operations Office: -CHOOSE- Refresh

Site Location: -CHOOSE-

Program: -CHOOSE-

Task Number: -CHOOSE- Modify Task Task Desc

Task Start Date: MMM-9999 Comment

Task End Date: MMM-9999 Comment

Total Burdened Task Cost: 0 Cost In Current Dollars: 0

Phase ID: -CHOOSE- Comment

Cost Indicator: Rolled Up ☒ Entered By Phase ☐

Total Burdened Phase Cost: 0 Cost In Current Dollars: 0

Phase Start Date: * Month: MMM Year: 9999 Comment

Phase End Date: * Month: MMM Year: 9999 Comment

Phase Centroid Date: * Year: 9999 Comment

Phase Type UOM: English ☒ Metric ☐

Button: To Access Design Attributes Screen For Phase 03.

3

Button: To Access Characterization Screen For Phase 02.

3

Button: To Access Popup Screen To Enter Task Description & Comments.

5

Button: To Access Popup Screen To Create, Add, Change, or Delete A Task.

2

1

Buttons To Access Popup Screens To Enter Comments For Phase Related Fields.

5

4

Phase Selected "->" Indicates Record (Data) Entered For A Phase. Selecting Phase 05 Or 06 Provides An Additional Button To Access Special Screens.

Figure 9

Refer to **Figure 9** for fields and buttons on the screen. The following table (Table 3) describes the field names and button labels on this screen. **Note:** Drop Down lists are accessed by clicking on the down arrow on the extreme right of the box and then clicking on the desired item to be selected.

Table 3

Field and Button Descriptions for the Specify Task Screen:

Field Or Button Name	Description	Required	Remarks
Operations Office or Managing Organization (Drop Down list)	Select the DOE Operations (OPS) Office or non-DOE Managing Organization for which a task and phase are to be displayed or created/updated.	Yes	Selecting an Operations Office or Managing Organization will generate a list of all the Tasks that currently exist in the ECAS database for that entity. The Task Number (field 4) Drop Down box displays the list. Selecting a different entity will generate a different list.
Site Location (Drop Down list)	Designate a city and state where the site for a task is located. Limits list of Tasks displayed to the selected Location.	No	Limits the list of Tasks that currently exists in the ECAS database and appear in the Task Number Drop Down box to only those for the specific selected location. If no location is selected, all of the tasks for an Operations Office or Managing Organization are displayed. Contact the system administrators mentioned in para 1.5.2 to have a site location added to the database.
Program or District/Region (Drop Down list)	Designates the DOE Environmental Management (EM) program or non-DOE District/Region in which a task is funded. Limits list of Tasks displayed to the selected Program or District/Region.	No	Limits the list of Tasks that currently exists in the ECAS database and appear in the Task Number Drop Down box to only those for the specific selected location. If both a specific Location and Program are selected, the Task Number Drop Down box lists only the Tasks for the selected location and program (both must apply, not either or).
Task Number (Drop Down list)	List of Tasks that currently exist in the ECAS database for an OPS Office (and Program and Location if selected).	Yes	A task (record) must exist in the database to enter or display data for an ECAS life cycle phase. A Task record can be created or changed using the pop-up screen that appears when clicking on the Modify Task button on the Specify Task screen. See section 2.1 for information on how to use

Field Or Button Name	Description	Required	Remarks
			the Modify Task Screen.
Modify Task (Button)	Access pop-up screen to create a new task or change or delete an existing Task (record) in the ECAS database.	No	If creating a new task, only the OPS Office can be selected on the entire Specify Task screen before clicking on the button. To change or delete any existing task, only the OPS Office and the desired task can be selected on the Specify Task screen before clicking on the button.
Task Desc (Button)	Access comment screen to enter a detailed description for an existing task.	No	Same screen used to enter a new description and change or delete an existing one.
Total Burdened Task Cost (Display /Enter)	Display the total cost of a task (project) by dynamically adding the cost data entered for all the phases of the task.	N/A	Can change as data is entered or deleted.
Task Start Date (Drop Down list)	Enter month and year work began on a task.	Yes	Must be = or < than the Task End Date.
Task End Date (Drop Down list)	Enter month and year work ended or will end for a task.	Yes	Must be = or > than Task Start Date; for tasks that include indefinite and ongoing work for Operations and Maintenance and Long Term Surveillance phases the date can be a future date up to 100 years from the current date.
Phase ID (Drop Down list)	Display or enter data for the selected ECES life cycle phase.	Yes	Any phase with a “->” symbol preceding it in the drop down list indicates a record (data previously entered in ECAS) exists in the database for this phase. The absence of this symbol requires that a user must click on the Submit button at the bottom of this screen to save (create a record in ECAS) all data entered or changed on this screen.
Total Burdened Phase Cost (Display /Enter)	Display total costs for a phase and enter total costs for a phase. (Reference next field for explanation.)	Yes/No	Depending on which radio button is selected for the next field (field #12), a dynamic accumulation of the costs entered for each ECES element for selected phase is shown or the total cost of the phase determined from a manual entry in this field is shown. If manually entered, the same amount will be shown consistently (unless manually changed) and is not affected by costs for ECES elements.

Field Or Button Name	Description	Required	Remarks
Cost Indicator: Rolled up or Entered by Phase (Radio Buttons)	Select how costs are to be accumulated for a specific phase.	Yes	Rolled Up – indicates costs for a phase are dynamically accumulated from costs entered for ECES elements. Entered by Phase – indicates Total Cost for a phase was manually entered. (Will not change unless manually changed.)
Phase Start Date (Drop Down list)	Enter month and year work began on a phase.	Yes	Must be = or > Task Start Date
Phase End Date (Drop Down list)	Enter month and year work began on a phase.	Yes	Must be = or > Phase Start Date
Phase Centroid Year (Drop Down list)	Enter year in which most of the work for a phase was accomplished.	Yes	Year is used as starting point for escalating costs (for inflation) to current year dollars. Note: This is disabled for phases 5 and 6.
Phase Type UOM (Radio Buttons)	Select English or Metric for all Units of measure referenced for a specific phase.	Yes	Determines which units of measure are displayed in unit of measure drop down lists on applicable screens.
PBS# (Drop Down list)	Select the Project Baseline Summary (PBS) number this task and phase falls under. A PBS may contain multiple tasks, but each task can only have one PBS number.	No	Only one per phase.
Prime Contract Type (Drop Down list)	Select type of contract (i.e., Fixed rate, Level of Effort, Fixed Price with Incentive etc.) awarded to the Prime Contractor by the Operations Office for the task and phase selected.	No	None
Same Contract for Entire Phase (Check Box)	If checked, indicates same prime contractor was responsible for all phase-related work.	No	None

Field Or Button Name	Description	Required	Remarks
Add Reference Task (Button)	Creates pop-up screen used to select tasks in which the costs and work for the selected phase may have been previously included.	No	Not used to calculate distributed costs but only to show how work was done.
Safety Protection Level (Drop Down list)	Select Type of clothing and protection used by workers for this task and phase.	No	Sum of selected types must = 100% or 0% if none are selected.
Data Quality Approved (Radio Buttons)	Select Yes or No - to designate reviewer has checked all task data for errors and reasonability and the data may now be released for viewing in ECAS.	Yes	If no (default) is selected, data on any screens that reference the selected task and phase cannot be viewed by regular ECAS users.
Comment (Buttons - multiple)	Create pop-screen to enter comments for the data field(s) on the same line as the button.	No	Pop up screen title references the data field to which the comment applies.
Submit (Button)	Clicking on this button will update the ECAS database for all information entered on this screen. If a life cycle phase is initially being entered for a task, subsequent screens cannot be accessed until this screen is submitted.	Yes (for update)	If a different phase is selected before the submit button is clicked, all NEW data entered on the screen for the previous phase will be lost.
Cancel (Button)	Negates notice changes have been made on screen.	No	Use if decision to submit has been changed.
Delete (Button)	To delete all records and data relating to a life cycle phase. This includes all ECES element records also.	No	Deleted records and data cannot be recovered.

Table 3

2.0 ECAS PRIMARY DATA ENTRY FUNCTIONS FOR LIFE CYCLE PHASES 01 to 04 AND 08

2.1 Creating/Changing/Deleting a Task Screen Using the **MODIFY TASK Screen**.


2.1.1 *Overview of the Screen*

This screen is used create a new task in the ECAS database, change an existing task and if no life cycle phases exist in the data base for this task, delete it. **Figure 10** shows the **MODIFY TASK Screen**.

This screen can only be **accessed from the SPECIFY TASK Screen** by clicking your mouse on the button labeled **MODIFY Task**. See **Figure 9** for the button location.

To **create a new task**, only the OPS office can be selected on the Specify Task Screen before clicking on the button.

To **change or delete a task**, only the OPS office and the specific task can be selected on the Specify Task screen before clicking on the button. The pop-up screen shown in **Figure 10** will appear.

 **Modify A Task - Microsoft Internet Explorer**

Modify A Task

Operations Office:

Task Number:

Title:

Site Location:

Program:

Start Date: Month: Year:

End Date: Month: Year:

Figure 10

Table 4

*Field and Button Descriptions for the **MODIFY TASK** Screen*

Field Or Button Name	Description	Required	Remarks
Operations Office or Managing Organization (Drop Down list)	Select the Operations Office (DOE) or Managing Organization (non-DOE) for which the task will be or was created.	Yes	
Task Number: (Display /Enter)	Enter/Display unique identifier for a task.	Yes	Must be min of 4 and max of 15 characters; no spaces; only special characters – or _;
Title (Display /Enter)	Enter/Display a brief description or title for the task.	Yes	Max of 60 characters
Site Location or District/Region (Drop Down list)	Enter/Display city and state (DOE) or District/Region (non-DOE) for the task.	Yes	
Program (Drop Down list)	Environmental Management (EM) program which funded the task.	Yes	
Task Start Date (Drop Down list)	Enter/Display month and year work began on a task.	Yes	Must be = or < than the Task End Date
Task End Date (Drop Down list)	Enter month and year work ended or will end for a task.	Yes	Must be = or > than Task Start Date; for tasks that include indefinite and ongoing work for Operations and Maintenance and Long Term Surveillance phases the date can be a future date up to 100 years from the current date.
Submit (Button)	Clicking on this button will update the ECAS database for all new information entered on this screen.	Yes (for update)	
Cancel (Button)	Close the screen without updating the ECAS database for any new information entered on	No	Use to close window if no new data was entered on the screen.

Field Or Button Name	Description	Required	Remarks
	this screen.		
Delete (Button)	To delete a task record.	No	Record cannot be deleted if data for at least one phase exists for this task.

Table 4

2.2 Creating a Life Cycle Phase Using the **SPECIFY TASK Screen**

2.2.1 Assessment Phase – Phase 01, Remedial Action – Phase 04, and Program Management – Phase 08;

In general, the procedures and data fields required on the **Specify Task Screen** are the same for the above phases. After entering data, clicking on the **Submit** button will build a record in the ECAS database for the task and phase selected. Data entered on all subsequent screens relate specifically to this task and phase. The next action would be to enter data describing the Site to be cleaned up using the **Site Type Screen**.

2.2.2 Studies Phase – Phase 02

The procedures and data fields required on the **Specify Task Screen** for phases 01 and 04 are generally the same for this phase. However one difference is that depending on the type of **Cost Indicator** selected, access to the ECES elements changes. If the **Cost Indicator** is “Entered By Phase” then ECES access is denied. If the cost indicator is “Rolled Up” then ECES access is permitted. After entering data on this screen, and clicking on the Submit button to build a record in the ECAS database for the task selected, click on the **SITE TYPE Screen** using the **MENU BUTTON Bars**. After completing the **SITE TYPE Screen**, and **SUBMITTING** your entries, click on the **CHARACTERIZATION MENU Button**.

A **CHARACTERIZATION Screen** will appear with additional fields required specifically for this phase. Refer to section **3.2.13** for more information on this screen.

2.2.3 Design Phase – Phase 03

The procedures and data fields required on the Specify Task screen for phases 01 and 04 are generally the same for this phase. However one difference is that only **one type of Cost Indicator - Entered By Phase** can be

selected. After entering data and clicking on the Submit button to build a record in the ECAS database for the task and phase selected, click on the **DESIGN ATTRIBUTES** Menu button.

A **DESIGN ATTRIBUTES Screen** will appear with additional fields required specifically for this phase. Refer to section **3.2.12** for information on this screen. Note that on this screen, a list of all level 3 ECES elements can be accessed. The elements that comprise the cost for the entire phase should be selected. Data entered on all subsequent screens relate specifically to this task and phase.

Before entering data in the **DESIGN ATTRIBUTES Screen**, proceed to the **SITE TYPE Screen** using the **MENU BUTTON Bars**.

2.3 Creating A List Of Reference Tasks From The **SPECIFY TASK SCREEN**.

A Reference task is a task in which multiple projects contributed to the cost of the task. The reference tasks for each phase must be entered individually for each phase. For each **REFERENCE TASK**, choose the location and the task and then click on the **ADD TASK Button**. Use the **REMOVE TASK Button** to delete tasks. When you are finished, use the **SUBMIT Button** to update the database. Use the **CANCEL Button** to return to the previous screen. **Figure 11** shows the screen you would use to enter reference tasks.

2.4 Entering Type of Site Data Using the **Site Type** screen.

Overview of the screen

This screen is used to create a new Site Type in the ECAS database or change/delete an existing Site Type. **Figure 12** shows the **Site Type Screen**. This screen can be **accessed from the Menu Bar (once a valid Phase Record has been created on the Specify Task Screen - see 2.4)** by clicking your mouse on the button labeled Site Type. See **Figure 12** for the button location.

To **create a new Site**, choose a specific Site Category. This will populate the Site Type List Box with the Sites appropriate for the selected Category. Then select a Site Type from it's appropriate List Box and **press THE CREATE/GET RECORD button**. This will initialize the rest of the screen with default values.

To **change or delete a Site**, choose a specific Site Category with an existing record

(An '→' proceeding the Site Category name indicates that a record exists for the chosen Site Category). This will populate the Site Type List Box with the Sites appropriate for the selected Category. Then select a Site Type with an existing record (an '→' proceeding the Site Type name indicates that a record already exists) from its appropriate List Box and press the Create/Get Record button. This will initialize the rest of the screen with values for the existing record. You can now either update the existing record or delete it from the database by pressing the appropriate button.

Reference Task - Microsoft Internet Explorer

Reference Task

OPS Office:	TST	Task:	1001	Phase:	08	Site Location:	Anytown,PA
--------------------	-----	--------------	------	---------------	----	-----------------------	------------

Location:
Anytown, PA
Comment

Tasks:
--CHOOSE--
Comment

Referenced Tasks:
Comment

Add Task

Remove Task


Submit

Cancel

Figure 11

ECAS v 2.1 - Microsoft Internet Explorer

** indicates a required field*



ACE Team
Applied Cost Engineering

Specify Task

Design Attributes

Characterization

Site Type

Site Work

Enter ECES

Treatment Trade

Col, Ana, Man, Mod

Disposal Methods

Subcontract Strat

Select Site Owner

Copy

D&D Technologies

View Reports

Exit

Site Category: *
Soils
Ground Water or Surface Water
Deactivation and Decommissioning

Selected Site Category:

Site Type: *
--CHOOSE--

Comment

Selected Site Type:

Site Size/Height: 0 UOM: --CHOOSE--

Site Size/Area: 0 UOM: --CHOOSE--

Site Size/Volume: 0 UOM: --CHOOSE--

Site Description: --CHOOSE--

Comment

Site Media: --CHOOSE--

Comment

Site Contaminants: --CHOOSE--

Comment

Depth to Contaminants: 0 UOM: --CHOOSE--

Submit Cancel Delete

Figure 12

Table 5

Field and Button Descriptions for the Site Type Screen:

Field Or Button Name	Description	Required	Remarks
Site Category (List Box)	Select a Site Category to narrow down the Site Type options.	Yes	A '→' proceeding the Site Category name indicates that at least one record exists for that Category.
Selected Site Category (Read-Only)	This displays the specific Site Category that was selected.	NA	
Site Type (List Box)	Select a specific Site Type to be defined for a task.	Yes	A '→' proceeding the Site Type name indicates that a record already exists for that Site.
Selected Site Type (Read-Only)	This displays the specific Site Type that was selected.	NA	
Site Size/Height (Drop Down List)	For the selected Site Type, this field requests the size in length of the site to be remediated or cleaned.	No	There is also a corresponding UOM Drop Down to fully define the Site Size.
Site Size/Area (Drop Down List)	For the selected Site Type, this field requests the size in area of the site to be remediated or cleaned.	No	There is also a corresponding UOM Drop Down to fully define the Site Size.
Site Size/Volume (Drop Down List)	For the selected Site Type, this field requests the size in volume of the site to be remediated or cleaned.	No	There is also a corresponding UOM Drop Down to fully define the Site Size.
Site Description (List Box)	This field provides a more detailed list of site types. This field identifies specific site type characteristics or parameters that may impact cost. The user can select multiple Descriptions at one time.	No	A '→' proceeding the Site Description name indicates that the item is included as one of the multiple selections.
Site Media (List Box)	The type of material or media at the site. This field is more applicable for D&D type work where the building material is an important factor that impact cost of a project.	No	A '→' proceeding the Site Media name indicates that the item is included as one of the multiple selections.

Field Or Button Name	Description	Required	Remarks
	The user can select multiple Media at one time.		
Site Contaminants (List Box)	List of contaminants of concern at the project site. The user can select multiple contaminants at one time.	No	A '→' proceeding the Site Contaminant name indicates that the item is included as one of the multiple selections.
Depth to Contaminants (List Box)	Field is used to indicate the depth of the contaminant from the ground surface to the top of the contaminated area. This field is to be used with subsurface soil or groundwater contaminated Site Categories.	No	
Comment (Button)	Brings up a pop up screen to enter comments for the particular field.	No	

Table 5

3.0 ECAS Secondary Data Entry Functions for Life Cycle Phases 01, 04, and 08

3.1 Using the **TREATMENT TRAIN Drop Down List**

After creating a **SITE TYPE** for a phase 01, 04 or 08 activity, choose the **TREATMENT TRAIN Drop Down List** to select a treatment. This will then bring up a screen with a list of ECES elements appropriate for that treatment. Many of the ECES elements will have a plus sign (+) to their left. This indicates that there are subordinate elements. Click on the (+) to view the additional elements. When there are no further elements, a minus sign (-) will appear. Click on the appropriate element to view the ECES input screen. A sample screen is shown below in **Figure 13**. **Note: There are more fields within each screen than shown in Figure 13.** After completing each field, use the scroll bar on the right to review more fields. Click the **SUBMIT Button** to record your entries in the database.

.03 .04 .00 .00 Health And Safety Plan - Microsoft Internet Explorer

.03 .04 .00 .00 Health And Safety Plan

OPS Office: TST
Task: 1001
Phase: 01
Site Location: Anytown, PA

Quantity: 1
UOM: --CHOOSE--
Total Cost: 0
Unit Cost: 0
Rollup Cost Total: 0

Cost in Current Dollars: 0
0
0

Secondary Parameters: Color code - Required(Green)

Comment

Depth/Vertical	0	UOM: --CHOOSE--
Distance	0	UOM: --CHOOSE--
Length	0	UOM: --CHOOSE--
Width	0	UOM: --CHOOSE--
Diameter	0	UOM: --CHOOSE--
Area	0	UOM: --CHOOSE--
Volume	0	UOM: --CHOOSE--

Use the scroll bar to view more fields not shown.

Figure 13

3.2 Special Screen Formats for Entering ECES Elements and Secondary Parameters

Figures 13, 14 through 21, 23, and 24 have a common interface in the top portion of the screen. In this portion of the screen, the user is allowed to input the quantity and UOM (which are required entries) and total cost (an optional entry). See Figure 14 below for more information.

Details on the lower portions of the screens are contained in the following paragraphs starting at 3.2.1

3.2.1 Collection of test samples (all .07.xx ECES elements except .07.15)

Overview of the screen

This screen is used to add, modify, or delete a record that could fall under the Investigations/Monitoring Sample Collection category in the ECES table. This screen is accessed by clicking on the **ENTER ECES Button** in the left panel; or clicking on the **Col, Ana, Man, Mod Button**; and then clicking on the .07.00.00 INVESTIGATIONS AND MONITORING/SAMPLE COLLECTION line. All elements with a level two number of .07 use this screen with the exception of .07.15, which uses the **WELLS DETAIL Screen**. **Figure 14** shows the **COLLECTION Screen**.

If an element's title and cost are bold, a record for that element exists.

.07 .00 .00 .00 INVESTIGATIONS AND MONITORING/SAMPLE COLLECTION - Microsoft Internet Explorer

.07 .00 .00 .00 INVESTIGATIONS AND MONITORING/SAMPLE COLLECTION

OPS Office:	SRO	Task:	1000	Phase:	04	Site Location:	Savannah River, SC
--------------------	-----	--------------	------	---------------	----	-----------------------	--------------------

Quantity: *
UOM: *
Total Cost:
Unit Cost:
Rollup Cost Total:

Cost In Current Dollars:

Secondary Parameters

** indicates a required field*

QA/QC Level Screening (Formerly Level 1 & 2): %
 QA/QC Level Definitive (Formerly Level 3, 4, & 5): %
 Contaminated Area: UOM:

Method of Sample Collection:

Frequency: UOM:
 Number of Samples: Survey Area: UOM:

Safety Protection Level:

Level A	Level B	Level C	Level D	Level E
<input type="text" value="0"/> %	<input type="text" value="0"/> %	<input type="text" value="0"/> %	<input type="text" value="0"/> %	<input type="text" value="0"/> %

Figure 14

Table 6

Field and Button Descriptions for the Collection Screen:

Field Or Button Name	Description	Required	Remarks
Comment (Button)	Brings up a pop up screen for comments for the particular record.	No	
QA/QC Level Screening (Drop Down)	This is the quality level of sampling, analysis, analysis procedure, and documentation provided by the samplers and laboratory. The Screening level is a less stringent level and usually includes method blank and a water spike/spike duplicate, and includes documentation or report on blank results, spiked sample and spiked duplicate results, and surrogate recoveries.	No	The Screening level is also known as QA/QC Levels 1 and 2. The QA/QC levels are negotiated between the regulators and owner of contaminated sites. Value ranges from 0% to 100%
QA/QC Level Definitive (Drop Down)	This is the quality level of sampling, analysis, analysis procedure, and documentation provided by the samplers and laboratory. The Definitive level is a more stringent level. In addition to Screening level requirements, the Definitive level also include calibration data, quality sample checks, and follows the Certified Laboratory Procedure requirements. The Definitive level is also known as QA/QC Levels 3 and 4.	No	The QA/QC levels are negotiated between the regulators and owner of contaminated sites. Value ranges from 0% to 100%.
Contaminated Area (Input Box)	The area contaminated from which the sample is being taken measured in square units.	No, unless a UOM is selected in the drop – down to the right of this field.	Value ranges from 0 to 10 square miles.
UOM (Drop Down)	Unit of measure dropdown that corresponds with Contaminated Area.	No, unless data is entered in Contaminated	A unit of measure for Contaminated Area can be selected here.

Field Or Button Name	Description	Required	Remarks
		Area.	
Method of Sample Collection (List Box)	Indicates method of sample collection such as using bailer or pumps to collect ground water samples or hand auger vs. CPT.	No	This list is a multiple selection list. Double click on an item in the list to select or deselect it. Items with arrows by them are selected. You may select up to five items in this list.
Frequency (Input Box)	Indicates how often the samples are collected.	No, unless a UOM is selected in the drop – down to the right of this field.	Samples could be collected based on time or based on volume.
UOM (Drop Down)	Unit of measure dropdown that corresponds with Frequency.	No, unless data is entered in Frequency	A unit of measure for Frequency can be selected here.
Number of Samples (Input Box)	Contains the number of samples collected for each sampling event	No	Value ranges from 0 to 200 samples.
Survey Area (Input Box)	The physical size or area covered during the sampling event.	No, unless a UOM is selected in the drop – down to the right of this field.	Value ranges from 0 to 10 square miles.
UOM (Drop Down)	Unit of measure dropdown that corresponds with Survey Area.	No, unless data is entered in Survey Area.	A unit of measure for Survey Area can be selected here.

Table 6

3.2.2 Collection Of Test Samples Monitoring Wells (Screen for 07.15 ECES Element)

Overview of the screen

This screen is used to create a new Monitoring Well record in the ECAS database, or to modify or delete an existing Monitoring Well. **Figure 15** shows the **MONITORING WELL Screen**.

This screen is accessed via the **ENTER ECES Button** on the left side of the ECAS screen or clicking on the **Col, Ana, Man, Mod Button**; and then clicking on the .07.15.00.00 line. Access to screen .07.15.00.00 is available only from phases 1, 4 and 8.

If an element's title and cost are bold, a record for that element exists.

.07 .15 .00 .00 Monitoring Well - Microsoft Internet Explorer

.07 .15 .00 .00 Monitoring Well

OPS Office: Task: 1001 Phase: 01 Site Location: Anytown, PA

Secondary Parameters

Comment

Wells Installed:
** indicates a required field*

Total Cost: 0 Cost In Current Dollars: 0

Number Of Wells: * 0

Types Of Wells: Vertical ☒ Horizontal ☐ Angular ☐

Size/Diameter: * 0 UOM: --CHOOSE--

Depth: * 0 UOM: --CHOOSE--

Length: 0 UOM: --CHOOSE--

Degrees: 0

Screening Material: --CHOOSE--

Casing Material: --CHOOSE--

Piping (InterConnections):
 Amorphous Solid
 Asphalt
 Brick
 CMP (Corrugated Metal Pipe)
 CRP (Concrete Reinforced Pipe)

Drilling Method: --CHOOSE--

Safety Protection Level: [Help](#)

Level A	Level B	Level C	Level D	Level E
0 %	0 %	0 %	0 %	0 %

Submit Cancel Delete Subtask

Figure 15

Table 7

Field and Button Descriptions for the MONITORING WELLS Screen:

Field Or Button Name	Description	Required	Remarks
Comment (Button)	Brings up a pop up screen for comments for this particular record.	No	
Total Cost (Input Box)	The Total Cost of the ECES element.	No	
Cost in Current Dollars (Read only)	This is the Total Cost originally entered escalated to the current year.	NA	
Number of Wells (Input Box)	Indicate the number of wells within the contaminated area.	Yes	Values range from 1 to 10,000.
Type of Wells (Radio Buttons)	Indicate if the wells are vertical, horizontal, or angular.	No	
Size/Diameter (Input Box)	Indicate the average diameter of the wells.	Yes	Values range from 0 to 2 feet.
Size/Diameter UOM (Drop Down)	Unit of Measure Drop Down Box associated with the Size/Diameter.	Yes	
Depth (Input Box)	Indicate the average depth of the wells.	Yes	Values range from 0 to 1000 feet.
Depth UOM (Drop Down)	Unit of Measure Drop Down Box associated with the Depth.	Yes	
Length (Input Box)	Indicate the average length of the wells.	No	Values range from 0 to 10,000 feet.
Length UOM (Drop Down)	Unit of Measure Drop Down Box associated with the Length.	No	
Degrees (Input Box)	Indicate the angle for angular wells.	No	Only active when the Angular radio button is selected.
Screening Material (Drop Down)	Construction material of the well screen or what the screen is made of (i.e. stainless steel, PVC, concrete, etc.)	No	
Casing Material (Drop Down)	Construction material of the well casing (i.e. stainless steel, PVC, concrete, etc.)	No	
Piping (Interconnections)	Indicate the type of material/s for the	No	

(List Box)	interconnections of the well casing and screens. Also, indicate approximately, what percentage of each material is used.		
Drilling Method (Drop Down)	Indicate the method used in drilling the wells (i.e. hollow stem, air rotary, mud rotary, conic penetration, cable tool, etc.)	No	
Subtask (Button)	Creates a duplicate ECES record entry for subtasks.	No	Useful for duplicating entries.

Table 7

3.2.3 Analysis of Test Samples (all .08.xx ECES elements)

Overview of the screen

This screen is used to add, modify, or delete a record that could fall under the Sample Analysis category in the ECES table. All elements with a level two number of .08 use this screen. **Figure 16** shows the **ANALYSIS Screen**.

This screen is accessed by clicking on the **ENTER ECES Button** in the left-panel; or by clicking or clicking on the **Col, Ana, Man, Mod Button**; and then clicking on the .08.00.00 line.

If an element's title and cost are bold, a record for that element exists.

.08 .00 .00 .00 SAMPLE ANALYSIS - Microsoft Internet Explorer

.08 .00 .00 .00 SAMPLE ANALYSIS

OPS Office:	SRO	Task:	1000	Phase:	04	Site Location:	Savannah River, SC
--------------------	-----	--------------	------	---------------	----	-----------------------	--------------------

Quantity: *	UOM: *	Total Cost:	Unit Cost:	Rollup Cost Total:
<input type="text" value="1"/>	<input type="text" value="-Choose-"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Cost In Current Dollars:		<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

Secondary Parameters

** indicates a required field*

QA/QC Level Screening (Formerly Level 1 & 2): %

QA/QC Level Definitive (Formerly Level 3, 4, & 5): %

Turn Around Time:

Standard (2 to 3 Weeks): %

14 Days: %

4 to 7 Days: %

24 to 72 Hours: %

Safety Protection Level:

Level A	Level B	Level C	Level D	Level E
<input type="text" value="0"/> %	<input type="text" value="0"/> %	<input type="text" value="0"/> %	<input type="text" value="0"/> %	<input type="text" value="0"/> %

Figure 16

Table 8

Field and Button Descriptions for the ANALYSIS Screen:

Field Or Button Name	Description	Required	Remarks
Comment (Button)	Brings up a pop up screen for comments for the particular record.	No	
QA/QC Level Screening (Drop Down)	This is the quality level of sampling, analysis, analysis procedure, and documentation provided by the samplers and laboratory. The Screening level is a less stringent level and usually includes method blank and a water spike/spike duplicate, and includes documentation or report on blank results, spiked sample and spiked duplicate results, and surrogate recoveries.	No	The Screening level is also known as QA/QC Levels 1 and 2. The QA/QC levels are negotiated between the regulators and owner of contaminated sites. Value ranges from 0% to 100%
QA/QC Level Definitive (Drop Down)	This is the quality level of sampling, analysis, analysis procedure, and documentation provided by the samplers and laboratory. The Definitive level is a more stringent level. In addition to Screening level requirements, the Definitive level also include calibration data, quality sample checks, and follows the Certified Laboratory Procedure requirements. The Definitive level is also known as QA/QC Levels 3 and 4.	No	The QA/QC levels are negotiated between the regulators and owner of contaminated sites. Value ranges from 0% to 100%.
Turn Around Time (Input Box)		No	The combined percentages of these fields must total 100%.

Table 8

3.2.4 Management of Test Samples (all .09.xx ECES elements except .09.09.xx)

Overview of the screen

This screen is used to add, modify, or delete a record that could fall under the Sample Management/Data Validation/Data Evaluation category in the ECES table. All elements with a level two number of .09 use this screen with the exception of the .09.09.xx elements that use the Management Modeling screen. **Figure 17** shows the **MANAGEMENT** screen.

This screen can be accessed by clicking on the **ENTER ECES Button** in the left-panel , or by clicking on the **Col, Ana, Man, Mod Button**; and then clicking on the .09.00.00.00 element “Sample Management/Data Validation/Data Evaluation”

If an element’s title and cost are bold, a record for that element exists.

.09 .00 .00 .00 SAMPLE MANAGEMENT/DATA VALIDATION/DATA EVALUATION - Microsoft Internet Exp...

.09 .00 .00 .00 SAMPLE MANAGEMENT/DATA VALIDATION/DATA EVALUATION

OPS Office:	SRO	Task:	1000	Phase:	04	Site Location:	Savannah River, SC
--------------------	-----	--------------	------	---------------	----	-----------------------	--------------------

Quantity: *
UOM: *
Total Cost:
Unit Cost:
Rollup Cost Total:

Cost In Current Dollars:

Secondary Parameters

** indicates a required field*

None.

Safety Protection Level:

Level A	Level B	Level C	Level D	Level E
<input type="text" value="0"/> <input type="button" value="v"/> %	<input type="text" value="0"/> <input type="button" value="v"/> %	<input type="text" value="0"/> <input type="button" value="v"/> %	<input type="text" value="0"/> <input type="button" value="v"/> %	<input type="text" value="0"/> <input type="button" value="v"/> %

Figure 17

Table 9

Field and Button Descriptions for the Management Screen:

Field Or Button Name	Description	Required	Remarks
Comment (Button)	Brings up a pop up screen for comments for the particular record.	No	

Table 9

3.2.5 Management of test samples – Modeling (all .09.09.xx ECES)

Overview of the screen

This screen is used to add, modify, or delete a record that could fall under the Modeling category under the Sample Management/Data Validation/Data Evaluation category in the ECES table. All elements with a level two number of .09 and level three number of .09 use this screen. **Figure 18** shows the **MANAGEMENT MODELING Screen**.

This screen can be accessed by clicking on the **ENTER ECES Button** in the left-panel , or by clicking on the **Col, Ana, Man, Mod Button**; and then clicking on the .09.09.00.00 element “Modeling”

If an element’s title and cost are bold, a record for that element exists.

.09 .09 .00 .00 Modeling - Microsoft Internet Explorer

.09 .09 .00 .00 Modeling

OPS Office:	SRO	Task:	1000	Phase:	04	Site Location:	Savannah River, SC
--------------------	-----	--------------	------	---------------	----	-----------------------	--------------------

Quantity: *
UOM: *
Total Cost:
Unit Cost:
Rollup Cost Total:

Cost In Current Dollars:

Secondary Parameters

** indicates a required field*

Complexity of Model:

- ☐ Very Complex, involving various media types and contaminants
- ☐ Complex, involving few contaminants and media type
- ☐ Average
- ☐ Simple Modeling
- ☐ Very Simple
- ☒ Not Applicable

Safety Protection Level:

Level A	Level B	Level C	Level D	Level E
<input type="text" value="0"/> %	<input type="text" value="0"/> %	<input type="text" value="0"/> %	<input type="text" value="0"/> %	<input type="text" value="0"/> %

Figure 18

Table 10

Field and Button Descriptions for the Management Modeling Screen:

Field Or Button Name	Description	Required	Remarks
Comment (Button)	Brings up a pop up screen for comments for the particular record.	No	
Complexity of Model (Radio Buttons)	Complexity of the management model.	No	Select one of the five buttons that most closely corresponds with the complexity of the management model.

Table 10

3.2.6 Air Sparging and Soil Vapor Extraction (SVE) (Screens for ECES Elements 25.02 and 25.17 respectively)

Overview of the screen

Since these two screens (Air Sparging & Soil Vapor Extraction) are nearly identical, both of the screens will be defined as one. These screens are used to create either a new Air Sparging or a new Soil Vapor Extraction record in the ECAS database, or to change/delete an existing Air Sparging/Soil Vapor Extraction record. **Figure 19** shows the **Air Sparging Screen** and **Figure 20** shows the **Soil Vapor Extraction Screen**.

The primary methods of accessing the Air Sparging and Soil Vapor Extraction screens are through: the ECES display (see 2.5) and the **Treatment Train Drop Down List**. The screens are accessed by clicking the .25.00.00.00 IN-SITU PHYSICAL TREATMENT ECES element. This will expand the level two hierarchical structure and display all of the ECES level three elements for .25.00.00.00. Click on either the .25.02.00.00 Air Sparging or the .25.17.00.00 Soil Vapor Extraction to access the appropriate screen.

To **create a new Air Sparging/Soil Vapor Extraction Record**, at a minimum you need to enter valid data for the required fields. These are: Compressor Size for Air Sparging and Blower Size for Soil Vapor Extraction, and the Number of Wells if wells are on the site. You can also define the record more clearly by providing

additional data in the fields on the rest of the screen. Once you have finished entering data, press the **SUBMIT Button** to add the new record.

To change an **Air Sparging/Soil Vapor Extraction Record**, enter any information that you want updated to the existing record and press the **SUBMIT Button**. This will update the record with the new data. You can delete an existing record at any time by pressing the **DELETE Button**.

.25 .02 .00 .00 Air Sparging - Microsoft Internet Explorer

.25 .02 .00 .00 Air Sparging

OPS Office:	SRO	Task:	1000	Phase:	04	Site Location:	Savannah River, SC
--------------------	-----	--------------	------	---------------	----	-----------------------	--------------------

Quantity: *	UOM: *	Total Cost:	Unit Cost:	Rollup Cost Total:
<input type="text" value="1"/>	<input type="text" value="-Choose-"/>	<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>
Cost In Current Dollars:		<input type="text" value="0"/>	<input type="text" value="0"/>	<input type="text" value="0"/>

Secondary Parameters:

** indicates a required field*

Above Ground Pipe Installed:

Pipe Material:

Pipe Length to Treatment System: UOM:

Pipe Average Diameter: UOM:

Below Ground Pipe Installed:

Pipe Material:

Pipe Length to Treatment System: UOM:

Pipe Average Diameter: UOM:

Compressor Size: *

SCFM

HP

☒ WELL INSTALLED ☐ HORIZONTAL TRENCH

Enter EITHER Well Installed or Horizontal Trench below depending on Option Selected

WELL INSTALLED

Figure 19

.25.17.00.00 Soil Vapor Extraction - Microsoft Internet Explorer

OPS Office: TST Task: 1001 Phase: 02 Site Location: Anytown, PA

Quantity: * 1 UOM: * --CHOOSE-- Total Cost: 0 Unit Cost: 0 Rollup Cost Total: 0
 Cost In Current Dollars: 0 0 0

Secondary Parameters:
 Comment

* indicates a required field

Above Ground Pipe Installed:
 Pipe Material: --CHOOSE--
 Pipe Length to Treatment System: 0 UOM: --CHOOSE--
 Pipe Average Diameter: 0 UOM: --CHOOSE--

Below Ground Pipe Installed:
 Pipe Material: --CHOOSE--
 Pipe Length to Treatment System: 0 UOM: --CHOOSE--
 Pipe Average Diameter: 0 UOM: --CHOOSE--

Blower Size: *
 0 SCFM
 0 HP

☒ WELL INSTALLED ☐ HORIZONTAL TRENCH

Enter EITHER Well Installed or Horizontal Trench below depending on Option Selected

WELL INSTALLED
 Extraction Well

Depth to Top of Screen: 0 UOM: --CHOOSE--
 Screen Length: 0 UOM: --CHOOSE--
 Number Of Wells: * 0
 Size/Diameter: 0 UOM: --CHOOSE--
 Depth: 0 UOM: --CHOOSE--
 Screening Material: --CHOOSE--
 Casing Material: --CHOOSE--
 Drilling Method: --CHOOSE--

HORIZONTAL TRENCH
 Trench Depth: 0 UOM: --CHOOSE--
 Screen Length: 0 UOM: --CHOOSE--

Safety Protection Level: [Help](#)

Level A	Level B	Level C	Level D	Level E
0 %	0 %	0 %	0 %	0 %

Submit Cancel Delete Subtask

Figure 20

Table 11

Field and Button Descriptions for the Air Sparging/Soil Vapor Extraction Screen:

Field Or Button Name	Description	Required	Remarks
Above Ground Pipe Material (Drop Down)	Construction material of the pipe or what the pipes are made off (stainless steel, PVC, concrete, etc).	No	
Above Ground Pipe Length to Treatment System (Input Box)	The approximate length of above ground pipe from where the vapors are being extracted to the treatment unit where the contaminated vapors are treated.	No, unless a UOM is selected in it's corresponding Drop Down.	
Above Ground Pipe Length to Treatment System UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Above Ground Pipe Length to Treatment System.	No, unless data is entered in the Above Ground Pipe Length to Treatment System.	
Above Ground Pipe Average Diameter (Input Box)	Average diameter of above ground piping. If only one size piping is used, this is the diameter of the inside diameter of the pipe. If more than one pipe size is used, this is the average inside diameter of the pipes that are located above ground.	No, unless a UOM is selected in it's corresponding Drop Down.	
Above Ground Pipe Average Diameter UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Above Ground Pipe Average Diameter.	No, unless data is entered in the Above Ground Pipe Average Diameter.	

Field Or Button Name	Description	Required	Remarks
Below Ground Pipe Material (Drop Down)	Construction material of the pipe or what the pipes are made off (stainless steel, PVC, concrete, etc).	No	
Below Ground Pipe Length to Treatment System (Input Box)	The approximate length of piping below ground from where the vapors are being extracted to the treatment unit where the contaminated vapors are treated.	No, unless a UOM is selected in it's corresponding Drop Down.	
Below Ground Pipe Length to Treatment System UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Below Ground Pipe Length to Treatment System.	No, unless data is entered in the Below Ground Pipe Length to Treatment System.	
Below Ground Pipe Average Diameter (Input Box)	Average diameter of below ground piping. If only one size piping is used, this is the inside diameter of the pipe. If more than one pipe size is used, this is the average inside diameter of the pipes used below ground.	No, unless a UOM is selected in it's corresponding Drop Down.	
Below Ground Pipe Average Diameter UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Below Ground Pipe Average Diameter.	No, unless data is entered in the Below Ground Pipe Average Diameter.	
Blower Size: SCFM (Input Box)*	The average amount or volume (in standard cubic feet per minute) of air the each blower is capable of blowing.	Yes*	
Blower Size: HP (Input Box)*	The average Horsepower of the Blower.	Yes*	
Compressor Size: SCFM (Input	The average amount or volume (in	Yes**	

Field Or Button Name	Description	Required	Remarks
Box)**	standard cubic feet per minute) of air the each blower is capable of blowing.		
Compressor Size: HP (Input Box)**	The average Horsepower of the Compressor.	Yes**	
Well Installed/Horizontal Trench (Radio Buttons)	The type of the Well/Trench.	No	
Extraction Well (Button)	Brings up the Extraction Well screen for Soil Vapor Extraction.	No	
Depth to Top of Screen (Input Box)	The depth (ft, m, inches, etc) from the ground surface to the top of screen.	No, unless a UOM is selected in it's corresponding Drop Down.	
Depth to Top of Screen UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Depth to Top of Screen.	No, unless data is entered in the Depth to Top of Screen.	
Screen Length (Input Box)	The length of the screen for the vertical wall.	No, unless a UOM is selected in it's corresponding Drop Down.	
Screen Length UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Screen Length.	No, unless data is entered in the Screen Length.	
Number of Wells (Input Box)	Number of wells installed within the contaminated area.	Yes	
Size/Diameter (Input Box)	Average diameter of the vertical wells.	No, unless a UOM is selected in it's corresponding	

Field Or Button Name	Description	Required	Remarks
		Drop Down.	
Size/Diameter UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Size/Diameter.	No, unless data is entered in the Size/Diameter.	
Depth (Input Box)	Average depth of the vertical wells.	No, unless a UOM is selected in it's corresponding Drop Down.	
Depth UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Depth.	No, unless data is entered in the Depth.	
Screening Material (Drop Down)	Construction material of the well screen or what the screen is made of (stainless steel, PVC, concrete, etc.).	No	
Casing Material (Drop Down)	Construction material of the well casing (i.e., stainless steel, PVC, concrete, etc.).	No	
Drilling Method (Drop Down)	Method used in drilling the wells (i.e., hollow stem, air rotary, mud rotary, cone penetration, etc.).	No	
Trench Depth (Input Box)	Depth of trench from ground surface to bottom of trench.	No, unless a UOM is selected in it's corresponding Drop Down.	
Trench Depth UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Trench Depth.	No, unless data is entered in the Trench Depth.	
Screen Length (Input Box)	The length of the screen for the vertical	No, unless a	

Field Or Button Name	Description	Required	Remarks
	wall.	UOM is selected in it's corresponding Drop Down.	
Screen Length UOM (Drop Down)		No, unless data is entered in the Screen Length.	
Comment (Button)	Brings up a pop up screen to enter comments for the particular field.	NA	
* Soil Vapor Extraction ** Air Sparging			

Table 11

3.2.7 Caps (Screens For ECES Elements 19.04 And 19.05 RCRA Caps)

Overview of the screen

This screen is used to create a new Capping record in the ECAS database, or to change/delete an existing Capping record. **Figure 21** shows the **CAPPING Screen**.

The primary methods of accessing the **CAPPING Screen** are through: the ECES display (see 2.5), and the **Treatment Train Drop Down List**. The screens are accessed by clicking 19.00.00.00 SOLIDS/SOILS CONTAINMENT (E.G., CAPPING) COLLECTION, OR CONT ECES element. This will expand the level two hierarchical structure and display all of the ECES level three elements for .19.00.00.00. You can now click on either the .19.04.00.00 RCRA C Cap or the .19.05.00.00 RCRA D Cap to access the Capping screen. To access the **CAPPING Screen** from the Soil Stabilization or the Capping Treatment Train, click on its appropriate ECES element (.19.04.00.00 for a RCRA C Cap or .19.05.00.00 for RCRA D Cap).

To **create a new Capping record**, at a minimum you need to enter valid data for the required fields. These are: Area at the Base, Area at the Top, Height of Cap, Pipe Length, and Pipe Size. You can also define the Cap

more clearly by providing additional data in the fields on the rest of the screen. Once you have finished entering data, press the **SUBMIT Button** to add the new record.

To **change a Capping record**, enter any information that you want updated to the existing record and press the Submit button. This will update the record with the new data. You can **delete** an existing record at any time by pressing the **DELETE Button**.

.19 .04 .00 .00 Rcra C Cap - Microsoft Internet Explorer

.19 .04 .00 .00 Rcra C Cap

OPS Office:	SRO	Task:	1000	Phase:	04	Site Location:	Savannah River, SC
--------------------	-----	--------------	------	---------------	----	-----------------------	--------------------

Quantity: *
UOM: *
Total Cost:
Unit Cost:
Rollup Cost Total:

Cost In Current Dollars:

Secondary Parameters

** indicates a required field*

Physical Properties:

Area at the Base: *	<input type="text" value="0"/>	UOM:	<input type="text" value="-Choose-"/>
Area at the Top: *	<input type="text" value="0"/>	UOM:	<input type="text" value="-Choose-"/>
Height of Cap: *	<input type="text" value="0"/>	UOM:	<input type="text" value="-Choose-"/>

Choose Up To 10 Layers:

	Layer Type:	Thickness:	Thickness UOM:	Distance:	Distance UOM:
1.	<input type="text" value="X-CHOOSE ONE-X"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>
2.	<input type="text" value="X-CHOOSE ONE-X"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>
3.	<input type="text" value="X-CHOOSE ONE-X"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>
4.	<input type="text" value="X-CHOOSE ONE-X"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>
5.	<input type="text" value="X-CHOOSE ONE-X"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>
6.	<input type="text" value="X-CHOOSE ONE-X"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>
7.	<input type="text" value="X-CHOOSE ONE-X"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>
8.	<input type="text" value="X-CHOOSE ONE-X"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>
9.	<input type="text" value="X-CHOOSE ONE-X"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>
10.	<input type="text" value="X-CHOOSE ONE-X"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>	<input type="text" value="0"/>	<input type="text" value="-Choose-"/>

Figure 21

Table 12

Field and Button Descriptions for the Capping Screen:

Field Or Button Name	Description	Required	Remarks
Area at the Base (Input Box)	The size or area of the cap at the bottom or base of the cap. The area of the base, surface area, and height of the cap are used to determine the slopes of the cap.	Yes	
UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Area at the Base.	Yes	
Area at the Top (Input Box)	The size or area of the cap at the top of the cap. This will indicate amount of material used for the cap. Also, the area of the base, surface area, and height of the cap are used to determine the slopes of the cap.	Yes	
UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Area at the Top.	Yes	
Height of Cap (Input Box)	The height of the cap from the base to the top of the cap.	Yes	
UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Height of Cap.	Yes	
Layer Type (Drop Down)	The type of layers(s) used in the cap. There can be up to 10 layers for each cap.	No	
Thickness (Input Box)	The thickness of each of the layers of the cap.	No	
Thickness UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Thickness.	No	
Distance (Input Box)	One way distance from the contaminated site to location of the borrow materials such as sand, topsoil, gravel, etc.		
Distance UOM (Drop Down)	Unit of measure Drop Down that corresponds	No	

Field Or Button Name	Description	Required	Remarks
	with the Distance.		
Drainage Layer (Check Boxes)	The type of materials used for the drainage system.	No	
Pipe Length (Input Box)	The total length of pipes used for the drainage system, including the length from cap to discharge point, and piping within the cap.	Yes	
UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Pipe Length.	Yes	
Pipe Material (Drop Down)	Construction material of the pipe or what the pipes are made off (stainless steel, PVC, concrete, etc).	No	
Pipe Size (Input Box)	The diameter of the pipe used in the drainage system.	Yes	
UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Pipe Size.	Yes	
Equipment Used (Check Boxes)	Identify if the type of equipment used during the construction of the cap is light (trucks, small dozers, etc.) or heavy (i.e., crane, rollers, etc).	No	
Comment (Button)	Brings up a pop up screen to enter comments for the particular field.	NA	

Table 12

3.2.8 Grout Injection (Screen for ECES Element 29.02)

Overview of the screen

This screen is used to add, modify, or delete a grout injection record in the ECES table. All elements with a level two number of .29 and a level three number of .02 use this screen. **Figure 22** shows the **Grout Injection screen**.

This screen can only be accessed from the full ECES screen. To access this screen, a phase from the Specify Task screen must be selected first and then the user must click on the “Enter ECES” (formerly “Enter WBS”) button on the left-hand side, which will bring up the full ECES table. From here, expand the level two item whose number is .29 (In Situ Stabilization/Fixation/Encapsulation) by clicking on the plus sign to the left of its number. This will display all of the level three elements whose level two number is .29. You can display the grout injection screen by clicking on the title of second one, “Grout Injection” (.29.02.00.00). **If the element’s title and cost are bold, a record for that element exists.**

To create a new grout injection record or to modify an old one, access the .29.02.00.00 screen in the full ECES screen and enter or change the data for this screen.

To delete a grout injection record, select the .29.02.00.00 ECES element after its record has been created and click on the delete button at the bottom of the screen.

.29 .02 .00 .00 Grout Injection - Microsoft Internet Explorer

.29 .02 .00 .00 Grout Injection

OPS Office:	SRO	Task:	1000	Phase:	04	Site Location:	Savannah River, SC
--------------------	-----	--------------	------	---------------	----	-----------------------	--------------------

Quantity: *
UOM: *
Total Cost:
Unit Cost:
Rollup Cost Total:

Cost In Current Dollars:

Secondary Parameters

** indicates a required field*

Density of Waste:
UOM:

Cement Volume: *
UOM:

On-site Batch ☒
Off-site Batch ☐

Soil/Sludge Moisture Content: %

Additive Ratios:

Additive Ratios and %:

Cement to Waste Other Other Additives to Waste To Be Determined Water to Cement	<input type="text" value="0"/> %	<input type="button" value=""/> <input type="button" value=""/>	Selected Additive Ratios:
---	----------------------------------	---	----------------------------------

Method of Grouting: *

Diameter of Auger:
UOM:

Torque:
UOM:

RPM:

Figure 22

Table 13

Field and Button Descriptions for the Grout Injection Screen:

Field Or Button Name	Function	Required	Remarks
Density of Waste (Input Box)	Represented in weight per volume and measured after the waste has solidified.	No	
UOM (Drop Down)	Unit of measure dropdown for density of waste.	No	Select a unit of measure for the density of waste with this dropdown.
Cement Volume (Input Box)	Ratio of volume of cement for each volume of waste.	Yes	A ratio from 1 to 5.
On-site/Off-site Batch (Radio Buttons)	Where the grouting compounds used for injection are prepared (on-site or off-site).	No	
Soil/Sludge Moisture Content (Input Box)	The percentage of water in the soil or sludge.	No	Values range from 0 to 100%
Additive Ratios and Percent (List Box)	Percentages of the cement additives, other additives (such as chemicals), and water to the grout mixture.	No	To add an item: select the item on the left, enter a percentage, and click on the right arrow button. To delete an item: select the item on the right and click on the left arrow button.
Method of Grouting (Drop Down)	Grouting method used.	Yes	
Diameter of Auger (Input Box)	Diameter of the drill bit used.	No	Helps to determine the number of borings required. Ranges from 0 to 1 meter.
UOM (Drop Down)	Unit of measure for the diameter of auger.	No	Select the appropriate unit of measure.
Torque (Input Box)	Indicates how much twisting or turning force the drill is applying.	No	
UOM (Drop Down)	Unit of measure dropdown for the torque.	No	Select a unit of measure for the torque with this dropdown.
RPM (Input Box)	Indicates how fast the drilling is.	No	

Table 13

3.2.9 Wells Entry - Extraction and Injection Wells (**SCREENS FOR ECES ELEMENTS 18.01 AND 18.02 RESPECTIVELY**)

Overview of the screen

This screen is used to create either a new Extraction or an Injection Well in the ECAS database, or to change/delete an existing Extraction/Injection Well. **Figure 23** shows the **WELLS ENTRY Screen**.

The primary methods of accessing the Wells Entry screen are through: the Main ECES display (see 2.5), the Soil Vapor Extraction screen (see 3.2.6), and the Pump and Treat Treatment Train (see 3.1). To access the Wells Entry screen through the Main ECES display, click the 18.00.00.00 Groundwater Containment, Collection, Or Control ECES element. This will expand the level two hierarchical structure and display all of the ECES level three elements for .18.00.00.00. You can now click on either the .18.01.00.00 Extraction Wells or the .18.02.00.00 Injection Wells to access the Wells Entry screen. To access the Wells Entry screen from the Soil Vapor Extraction screen, click on the Extraction Well button in the Vertical Well Installed section. To access the Wells Entry screen from the Pump and Treat Treatment Train, either click on it's appropriate ECES element (.18.01.00.00 for an Extraction Well, and .18.02.00.00 for an Injection Well), or click on the appropriate Wells button located at the top of the screen.

To **create a new Well**, at a minimum you need to enter valid data for the required fields. These are: Number Of Wells, Size/Diameter, and Depth. You can also define the Well(s) more clearly by providing additional data in the fields on the rest of the screen. Once you have finished entering data, press the Submit button to add the new record.

To **change a Well**, enter any information that you want updated to the existing record and press the Submit button. This will update the record with the new data. You can **delete** an existing record at any time by pressing the Delete button.

.18 .01 .00 .00 Extraction Wells - Microsoft Internet Explorer

.18 .01 .00 .00 Extraction Wells

OPS Office:	SRO	Task:	1000	Phase:	04	Site Location:	Savannah River, SC
--------------------	-----	--------------	------	---------------	----	-----------------------	--------------------

Secondary Parameters

Wells Installed:
** indicates a required field*

Total Cost:	<input type="text" value="0"/>	Cost In Current Dollars:	<input type="text" value="0"/>
Distance to Treatment Units:	<input type="text" value="0"/>	UOM:	<input type="text" value="-Choose-"/>
Number Of Wells: *	<input type="text" value="0"/>		
Types Of Wells:	Vertical <input checked="" type="radio"/> Horizontal <input type="radio"/> Angular <input type="radio"/>		
Size/Diameter: *	<input type="text" value="0"/>	UOM:	<input type="text" value="--CHOOSE--"/>
Depth: *	<input type="text" value="0"/>	UOM:	<input type="text" value="--CHOOSE--"/>
Length:	<input type="text" value="0"/>	UOM:	<input type="text" value="--CHOOSE--"/>
Degrees:	<input type="text" value="0"/>		
Screening Material:	<input type="text" value="--CHOOSE--"/>		
Casing Material:	<input type="text" value="--CHOOSE--"/>		
Piping (InterConnections):	<input type="text" value="Amorphous Solid"/> <input type="text" value="Asphalt"/> <input type="text" value="Brick"/> <input type="text" value="CMP (Corrugated Metal Pipe)"/> <input type="text" value="CRP (Concrete Reinforced Pipe)"/>		
Drilling Method:	<input type="text" value="--CHOOSE--"/>		

Figure 23

Table 14

Field and Button Descriptions for the Wells Entry Screen:

Field Or Button Name	Description	Required	Remarks
Total Cost (Input Box)	The total cost of the ECES element selected.	No	
Cost In Current Dollars (Read-Only)	This is the Total Cost originally entered escalated to the current year.	NA	
Distance to Treatment Units (Input Box)	Indicate the average one-way distance from the extraction well or injection well units to the treatment unit or facility.	No, unless a UOM is selected in it's corresponding Drop Down.	
UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Distance to Treatment Units.	No, unless data is entered in the Distance to Treatment Units Input Box.	
Number of Wells (Input Box)	Indicate number of injection wells installed within the contaminated area.	Yes	
Types of Wells (Radio Buttons)	Indicate if the wells are horizontal, vertical, or slanted.	No	
Size/Diameter (Input Box)	Average diameter of the vertical, horizontal, or slanted wells.	Yes	
UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Size/Diameter.	Yes	
Depth (Input Box)	The depth of the vertical, horizontal, or slanted well.	Yes	
UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Depth.	Yes	
Length (Input Box)	The length of the vertical, horizontal, or slanted well.	No, unless a UOM is selected in it's	

Field Or Button Name	Description	Required	Remarks
		corresponding Drop Down.	
Degrees (Input Box)	Indicate the angle for angular wells.	No	Only active when the Angular radio button is selected.
UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Length.	No, unless data is entered in the Length Input Box.	
Screening Material (Drop Down)	Construction material of the well screen or what the screen is made of (i.e. stainless steel, PVC, concrete, etc).	No	
Casing Material (Drop Down)	Construction material of the well casing (i.e., stainless steel, PVC, concrete, etc).	No	
Piping (Inter-Connections) (Drop Down)	Type of material/s for the interconnections of the well casing and screens. Also, indicate approximately what percentage for each material is used.	No	
Drilling Method (Drop Down)	Method used in drilling the wells (i.e., hollow stem, air rotary, mud rotary, cone penetration, etc).	No	
Comment (Button)	Brings up a pop up screen to enter comments for the particular field.	NA	

Table 14

3.2.10 Disposal Methods (all .33.xx ECES elements)

Overview of the screen

This screen is used to add, modify, or delete a record that could fall under the Disposal Methods category in the ECES table. All elements with a level two number of .33 use this screen. **Figure 24** shows the **DISPOSAL METHODS Screen**.

This screen can be accessed in two ways. In both cases, a phase from the **SPECIFY TASK Screen** must be selected first. The first way to access a Disposal Methods screen is to click on the “Enter ECES” (formerly “Enter WBS”) button on the left-hand side, which will bring up the full ECES table. The only level two Disposal Methods element, “Disposal” can be accessed by simply clicking on its title. To access a level three Disposal Methods element, click on the plus sign to the left of the ECES number of the level two Disposal Methods element (.33.00.00.00), whether the actual level two record exists or not. This will display all of the level three Disposal elements. Each element can be accessed by clicking on the title. When there is a plus sign to the left of the level three ECES number, that element can be broken down into level four elements by clicking on the plus sign. In similar way, level four elements can be broken down into level five elements. In all cases, clicking on its title accesses the element. The other way to access a Disposal Methods record is to click on the “Disposal Methods” button on the left-hand side after a phase is selected. This will display the level two element for Disposal Methods. The elements on this screen can be accessed in the same way as in the full ECES screen, by breaking down the level two Disposal Methods element. **If an element’s title and cost are bold, a record for that element exists.**

To create a new Disposal Methods record or to modify an old one, access the screen of the most appropriate element for the type of Disposal Methods record you want to create or modify. At this point, you can select either an onsite or offsite Disposal Methods screen by clicking on the “On/Off Site” button at the top. Both onsite and offsite records can exist for a single .33 ECES element and this button toggles between them. The costs on the ECES screen for built records for a single ECES element reflect the sum of both the onsite and offsite records. At this point, enter or change the data for either the onsite or offsite screen and click on the submit button at the bottom of the screen.

To delete a Disposal Methods record, select the element for that record, select either onsite or offsite with the “On/Off Site” button, and click on the delete button in the Disposal Methods screen for that element. **Remember that if both an onsite and an offsite record exist for a single .33.xx ECES element, one will remain when you delete the other.**

.33 .00 .00 .00 DISPOSAL - Microsoft Internet Explorer

.33 .00 .00 .00 DISPOSAL

OPS Office:	SRO	Task:	1000	Phase:	04	Site Location:	Savannah River, SC
--------------------	-----	--------------	------	---------------	----	-----------------------	--------------------

Quantity: *
UOM: *
Total Cost:
Unit Cost:
Rollup Cost Total:

Cost In Current Dollars:

Secondary Parameters

** indicates a required field*

Location/Facility Type:

Packing Type:

One Way Distance To Facility: UOM:

Transportation Mode: *

Air ☐
 Water ☐
 Rail ☐
 Truck ☐

Safety Protection Level:

Level A	Level B	Level C	Level D	Level E
<input type="text" value="0"/> %	<input type="text" value="0"/> %	<input type="text" value="0"/> %	<input type="text" value="0"/> %	<input type="text" value="0"/> %

Figure 24

Table 15

Field and Button Descriptions for the Disposal Methods Screen:

Field Or Button Name	Description	Required	Remarks
On/Off Site (Button)	Toggles between onsite and offsite records for a particular .33.xx ECES element.	No	The type of record (either onsite or offsite) is displayed on the upper right-hand part of the screen about the Rollup Cost Total field.
Comment (Button)	Brings up a pop up screen for comments for the particular record.	No	
Location/Facility Type (Drop Down)	Type of facility.	No	
Packing Type (Drop Down)	Method by which the waste was packaged.	No	
One Way Distance to Facility (Input Box)		No	
Transportation Mode (Selection)	Method by which the waste was transported.	Yes, at least one must be selected.	At least one box must be checked.

Table 15

3.2.11 Sub-Contracting Strategy (Screen Can REFER To Any ECES Element)

Overview of the screen

This screen is used to input information relating to the prime and subcontractors relative to the selected ECES element(s). **Figure 25** shows the **SUB-CONTRACTING STRATEGY Screen**


This screen is accessed from the left portion of the screen once a valid task number and valid phase ID have been selected. This screen can not be accessed from phase ID 5 and 6.

To create a new subcontracting record, click on the **SUBCONTRACT STRAT Button**. A listing of the previously chosen ECES element(s) for that phase will be displayed in the **Related ECES Element(s) Box**. Select the ECES element you wish to create a subcontracting record for by clicking on the ECES element and then clicking on the **View Record Button**. Once the screen has been reset with the selected ECES record, the user can make the appropriate choices. **Note:** Holding down the **SHIFT** key on the keyboard, then clicking on the first ECES element and then clicking on the last ECES element will select all contiguous records between the two clicked elements. Holding down the **CTRL** key on the keyboard while ECES elements are clicked will allow the selection of non-contiguous records. Using either of these methods will allow the subsequent subcontracting strategy to apply to all selected records. **Note:** After selecting the strategy options, click on the **SUBMIT Button** to add your input into the database.

To delete an existing record, select the ECES element(s) using any of the methods mentioned above and click on the **DELETE Button**.

After clicking on the **SUBMIT Button** (or **DELETE Button**), the computer will add (or delete) the records. The computer will respond with a “Record Added” (or “Record Deleted”) pop-up box and await the clicking of the “OK” Button. To exit the Subcontracting Strategy Screen, click on the **any of the buttons** on the left side of the screen.

← → × ↺ 🏠 🔍 📁 📊 📄 📁 W



ACE Team
Applied Cost Engineering

Specify Task

Design Attributes

Characterization

Site Type

Site Work

Enter ECES

Treatment Trauma

Col, Ana, Man, Mod

Disposal Methods

Subcontract Strat

Select Site Owner

Copy

D&D Technologies

View Reports

Exit

Subcontracting Strategy

OPS Office: TST Task: 1001 Phase: 01 Site Location: Anytown, PA

** indicates a required field*

Related ECES Element:

07.15.00.00	Monitoring Well
08.00.00.00	SAMPLE ANALYSIS
08.01.01.00	Organic

View Record

Prime (Site Forces): %
 Subcontractors: %

Number of Bidders: 1 ☒ 2 - 5 ☐ >5 ☐

Continuity of Work: Yes ☒ No ☐

Average Work Week: (Work Hours Per Week)

Other Attributes:

Figure 25

Table 16

Field and Button Descriptions for the SUBCONTRACTING STRATEGY Screen:

Field Or Button Name	Description	Required	Remarks
Related ECES Element (List Box)	Lists the ECES elements previously selected for this task and phase.	No	
View Record (Button)	Used to view the subcontracting strategy for one or more selected ECES elements.	No	
Prime (Drop Down List)	Enter the percent of the costs that will go to the Prime Contractor.	No	This value plus the value for the subcontractor must equal 100%.
Subcontractor (Drop Down List)	Enter the percent of the costs that will go to the Subcontractor(s).	No	This value plus the value for the prime must equal 100%.
Number of Bidders (Radio Buttons)	Select the button representative of the number of bidders.	No	
Continuity of Work (Radio Buttons)	Indicate if the work will be performed full-time or not full-time.	No	
Average Work Week (Input Box)	Input the estimated number of hours to be worked per person in an average workweek.	No	
Comment (several) Button	Provide additional useful information as appropriate.	No	

Table 16

3.2.12 Design Attributes (**SCREEN FOR ENTERING DATA THAT APPLIES ONLY TO PHASE = 03 (Design).**)

Overview of the screen

This screen is used to create a new Design Attribute record in the ECAS database or change/delete an existing Design Attribute record. **Figure 26** shows the **DESIGN ATTRIBUTES Screen**.


This screen can be **accessed from the Menu Bar (once a valid Phase 3 Record has been created on the Specify Task screen - see 2.4)** by clicking your mouse on the button labeled Design Attributes.

To **create a new Design Attribute record**, at a minimum you need to enter valid data for the required fields. These are: New or Innovative Technology, Type of Design, and the Number of Design Changes. You can also define the record more clearly by providing additional data in the fields on the rest of the screen. Once you have finished entering data, press the Submit button to add the new record.

To **change a Design Attribute record**, enter any information that you want updated to the existing record and press the Submit button. This will update the record with the new data. You can **delete** an existing record at any time by pressing the Delete button.

ECAS v 2.1 - Microsoft Internet Explorer

File Edit View Favorites Tools Help



ACE Team
Applied Cost Engineering

Specify Task

Design Attributes

Characterization

Site Type

Site Work

Enter ECES

Treatment Types

Col, Ana, Mem, Mod

Disposal Methods

Subcontract Strat

Select Site Owner

Copy

D&D Technologies

View Reports

Exit

Design Phase Attributes

OPS Office: TST Task: 1000AB Phase: 03 Site Location: Bruceton, PA

Total Cost: 55,000 Cost In Current Dollars: 60,390

Secondary Parameters

Comment

* indicates a required field

New or Innovative Technology: Comment

No ☒ Yes ☐

Type of Design:

New ☒ Retrofitting/Modification ☐ Unique/One of a Kind ☐

Number of Design Changes: 0 Comment

Multiple codes permitted—Double click to Add or Delete codes

Design Code Criteria:

- Fire Hazards
- Flooding
- Other
- Rad Protection
- Security Requirement

Comment

Double Click To Select or Delete Facility Components

- X-CHOOSE-X
- 01.00 PROJECT MANAGEMENT/SUPPORT/INFRASTRUCTURE
- 02.00 PROJECT MANAGEMENT AND SUPPORT
- 03.00 PREPARATION OF PLANS AND SPECIFICATIONS
- 04.00 STUDIES/DESIGN AND DOCUMENTATION

List of Selected WBS Elements

- 05.08 Access Roads
- 05.09 Arterial Roads/Divided Highways

Submit Cancel Delete

Done Internet

Figure 26

Table 17

Field and Button Descriptions for the Design Attributes Screen:

Field Or Button Name	Description	Required	Remarks
New or Innovative Technology (Radio Buttons)	Indicate if the design being developed is for new or innovative technology.	Yes	
Type of Design (Check Boxes)	Indicate if the design being developed is for a new facility, retrofitting/ modification, unique/one of a kind, and/or other. If the facility design has “Other” requirements, please include a description in the Comment box. A user may make multiple or combination of selection.	Yes	
Number of Changes (Input Box)	Indicate number of changes made in the design of the facility. A Design Change is defined as any changes or modifications to the design that had impact the design cost by \$5,000.	Yes	
Design Code Criteria (List Box)	Select the design code criteria that may be required at the location of the facility or because of the use of the facility. A user may make multiple selections.	Yes	
Facility Components (List Box)	Select those ECES elements that are considered part of the design or contributed to the design cost. A user may make multiple selections.	Yes	
Comment (Button)	Brings up a pop up screen to enter comments for the particular field.	No	

Table 17

3.2.13 Characterization (SCREEN FOR ENTERING DATA THAT APPLIES ONLY TO PHASE = 02 (Studies/Characterization)).

Overview of the screen

This screen is used to create a new Characterization record in the ECAS database, or to change/delete an existing Characterization record. **Figure 27** shows the **CHARACTERIZATION Screen**.


This screen can be accessed from the Menu Bar (once a valid Phase 2 Record has been created on the Specify Task screen - see 2.2.2) by clicking your mouse on the button labeled Characterization. See Figure 9 for the button location.

To create a new Characterization record, enter the data that is appropriate to the site in the fields provided. Once you have finished entering data, press the Submit button to add the new record.

To change a Characterization record, enter any information that you want updated to the existing record and press the Submit button. This will update the record with the new data. You can delete an existing record at any time by pressing the Delete button.

ECAS v 2.1 - Microsoft Internet Explorer

File Edit View Favorites Tools Help



ACE Team
Applied Cost Engineering

Specify Task

Design Attributes

Characterization

Site Type

Site Work

Enter ECES

Treatment Tables

Col, Ana, Man, Mod

Disposal Methods

Subcontract Strat

Select Site Owner

Copy

D&D Technologies

View Reports

Exit

Characterization

OPS Office: TST Task: 1000AB Phase: 02 Site Location: Bruceton, PA

** indicates a required field*

Proximity/Congestion of Site:

Distance To Other Facility: * UOM: --CHOOSE--

Distance To Site Boundary: * UOM: --CHOOSE--

Congestion: * Inactive Facility ☒ Operating Facility ☐

Submit Cancel Delete

Internet

Figure 27

Table 18

Field and Button Descriptions for the Characterization Screen:

Field Or Button Name	Description	Required	Remarks
Distance To Other Facility (Input Box)	Average one-way distance from the contaminated area to a facility closest to the contaminated site.	Yes	
UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Distance To Other Facility.	Yes	
Distance To Site Boundary (Input Box)	Average one-way distance from the contaminated area to boundary of the complex or site.	Yes	
UOM (Drop Down)	Unit of measure Drop Down that corresponds with the Distance To Site Boundary.	Yes	
Congestion (Radio Buttons)	Defines whether the site is an Inactive Facility or an Operating Facility.	Yes	

Table 18

- 4.0 ECAS Primary Data Entry Functions for Life Cycle Phase 05 (Operations and Maintenance) and Phase 06 (Surveillance and Long Term Maintenance)
 - 4.1 Creating/Changing/Deleting a Task screen using the **MODIFY TASK Screen** for phases 05 and 06. Refer to section 2.1.
 - 4.2 Creating a Life Cycle Phase for Phases 05 and 06 using the **SPECIFY TASK Screen**
 - 4.2.1 Specify Task Screen for phases 05 and 06.

Overview of screen

This screen is used to select, create, or change the task and life cycle phase for which data is to be viewed or entered. Phases 5 and 6 are unique in that **all cost data is entered for a specific year** . All subsequent screens accessed after Specify Task will contain data that relates only to the task and phase selected (and year selected from the **OM FAC COSTS Screen**). You cannot leave the Specify Task screen except to access the Facility Type screen until a valid task, phase and year has been selected or created. **Figure 9** shows the **SPECIFY TASK Screen** for phases 1 -4 and 8.. **Figure 28** shows a portion of the **SPECIFY TASK Screen** for phases 5 and 6.

The Specify Task screen also can be used to:

- 1) Create a new task or change an existing task in the ECAS database.
- 2) Create a new (life cycle) phase or change an existing phase for a task in the ECAS database.
- 3) Access the **OM FAC COSTS Screen** designed specifically to enter data for phase 5 (Operations and Maintenance) and phase 6 (Long Term Surveillance and Monitoring) and to select the year for which cost data is or will be entered.
- 4) Enter comments up to 5,000 characters in length to describe a task and phase related data fields on the screen.
- 5) Quality Approval of all data entered for the phase by the ECAS Quality Assurance (QA) administrator.

Note: Drop Down lists are accessed by clicking on the down arrow on the extreme right of the box and then clicking on the desired item to be selected.

ECAS v 2.1 - Microsoft Internet Explorer

File Edit View Favorites Tools Help

OPS Office: TST Task: 1001 Phase: 05 Site Location: Anytown, PA

* indicates required field OWNER = United States Dept. of Energy

Operations Office: TEST OPERATIONS Refresh

Site Location: Anytown, PA

Program: TECHNOLOGY DEVELOPMENT

Task Number: 1001 Dummy task for editing manual Modify Task Task Desc

Task Start Date: JAN-2002 Comment

Task End Date: DEC-2002 Comment

Total Burdened Task Cost: 1,456,787 Cost In Current Dollars: 1,456,787

Phase ID: -> 5 (Operations and Maintenance) Comment

Enter OM Costs For Facility: OM Fac Costs Yr = 9898

Cost Indicator: Rolled Up ☐ Entered By Phase ☒

Total Burdened Phase Cost: 536,608 Cost In Current Dollars: 536,608

Phase Start Date: * Month: MAY Year: 2002 Comment

Phase End Date: * Month: JUN Year: 2002 Comment

Phase Centroid Date: * Year: 2002 Comment

Phase Type UOM: English ☒ Metric ☐

ACE Team
Applied Cost Engineering
Use RA Technologies
OM ECES Elements
OM Disposal Methods
OM Storage Costs
Facility Type
OM Costs by Treatment Train
Back/Specify Task
Select Site Owner
View Reports
Exit

Internet

Figure 28

Table 19

Field and Button Descriptions for the Specify Task for Phases 05 and 06 Screen:

Field Or Button Name	Description	Required	Remarks
Operations Office (Drop Down list)	Select the DOE Operations (OPS) Office for which a task and phase are to be displayed or created/updated	Yes	Selecting an Operations Office will generate a list of all the Tasks that currently exist in the ECAS database for that Office. The Task# (field 4) Drop Down box displays the list. Selecting a different Operations Office will generate a different list.
Site Location (Drop Down list)	Designate a city and state where the site for a task is located. Limits list of Tasks displayed to the selected Location.	No	Limits the list of Tasks that currently exists in the ECAS database and appear in the Task# Drop Down box to only those for the specific selected location. If no location is selected, all of the tasks for an Operations Office are displayed.
Program (Drop Down list)	Designates the DOE Environmental Management (EM) program in which a task is funded. Limits list of Tasks displayed to the selected Program.	No	Limits the list of Tasks that currently exists in the ECAS database and appear in the Task# Drop Down box to only those for the specific selected location. If both a specific Location and Program are selected, the Task# Drop Down box lists only the Tasks for the selected location and program (both must apply, not either or).
Task # (Drop Down list)	List of Tasks that currently exist in the ECAS data base for an OPS Office (and Program and Location if selected)	Yes	A task (record) must exist in the database to enter or display data for an ECAS life cycle phase. A Task record can be created or changed using the pop-up screen that appears when clicking on the Modify Task button on the Specify Task screen. See section 3.2.14 for information on how to use the Create Task Screen.
Modify Task (Button)	Access pop-up screen to create anew task or change or delete an	No	If creating a new task , only the OPS Office can be selected on the entire Specify Task screen

Field Or Button Name	Description	Required	Remarks
	existing Task (record) in the ECAS database.		before clicking on the button. To change or delete any existing task , only the OPS Office and the desired task can be selected on the Specify Task screen before clicking on the button.
Task Desc (Button)	Access comment screen to enter a detailed description of an existing task	No	Same screen used to enter a new description and change or delete an existing one.
Task Cumulative Cost (Read Only)	Display the total cost of a task (project by dynamically adding the cost data entered for all the phases of the task.	N/A	Can change as data is entered or deleted.
Task Start Date (Drop Down list)	Enter month and year work began on a task.	Yes	Must be = or < than the Task End Date.
Task End Date (Drop Down list)	Enter month and year work ended or will end for a task.	Yes	Must be = or > than Task Start Date; for tasks that include indefinite and ongoing work for Operations and Maintenance and Long Term Surveillance phases the date can be a future date up to 100 years from the current date.
Phase ID (Drop Down list)	Select an ECES life cycle phase to display or enter data for. Note: For phase 05 or 06, Specify Task screen format changes and different menu bars appear on the screen.	Yes	Any phase with a “->” symbol preceding it in the drop down list indicates a record (data previously entered in ECAS) exists in the database for this phase. The absence of this symbol requires that a user must click on the Submit button at the bottom of this screen to save (create a record in ECAS) all data entered or changed on this screen.
Cost Indicator (Radio Buttons)	Display how costs are to be accumulated.	Yes	Rolled Up selected – indicates costs for a phase are dynamically accumulated from costs entered for ECES elements. Entered by Phase – indicates Total Cost for a phase was manually entered (Will not change unless manually changed)

Field Or Button Name	Description	Required	Remarks
Phase Burdened Total Cost (Display /Enter)	Display total costs for a phase	Yes/No	Depending on which radio button is checked for the next field (field #12), a dynamic accumulation of the costs entered for each ECES element for a selected phase (and all applicable years) is shown or the total cost of the phase (and all applicable years) determined from manual entries in fields on the OMFacility Costs screen. If manually entered, the same amount will be shown consistently (unless manually changed) and is not affected by costs for ECES elements.
OM Facility Costs (Button)	Clicking button initiates display of OMFacility Costs screen, which must be accessed to select a year for display or entry of costs.	Yes to access screen	OMFacility Costs screen is used to enter cost data by year for cost indicator = 'M' and to select the year for cost data to be entered by ECES element (cost indicator = 'R').
Enter OM Costs For Facility Display Window	Displays the year selected from the OMFacility Costs screen	No	Window is display only; a "Yr = 9898" display indicates a year has NOT been selected from the OMFacility Costs screen
Phase Start Date (Drop Down list)	Enter month and year work began on a phase	Yes	Must be = or > Task Start Date
Phase End Date (Drop Down list)	Enter month and year work began on a phase	Yes	Must be = or > Phase Start Date
Phase Centroid Year	Not applicable for these phases.	No	
Phase Type UOM (Radio Buttons)	Select English or Metric for all Units of measure referenced for a specific phase	Yes	Determines which units of measure are displayed in unit of measure drop down lists on applicable screens.
PBS# (Drop Down list)	Select the Project Baseline Summary (PBS) number this task and phase falls under. A PBS may contain multiple tasks, but each task can only have one PBS number.	No	Only one per phase
Prime Contract Type	Select type of contract (i.e., Fixed	No	None

Field Or Button Name	Description	Required	Remarks
(Drop Down list)	rate, Level of Effort, Fixed Price with Incentive etc.) awarded to the Prime Contractor by the Operations Office for the task and phase selected.		
Same Contract for Entire Phase (Check Box)	If checked, indicates same prime contractor was responsible for all phase related work	No	None
Add Reference Task (Button)	Creates pop-up screen used to select other tasks in which some of the costs and work for the selected phase may have been previously included.	No	Not used to calculate distributed costs but only to show how work was done.
Safety Protection Level (Drop Down list)	Select Type of clothing and protection used by workers for this task and phase.	No	Sum of selected types must = 100% or 0% if none are selected
Data Quality Approved (Radio Buttons)	Select Yes or No - to designate reviewer has checked all task data for errors and reasonability and the data may now be released for viewing in ECAS.	Yes	If no (default) is selected, data on any screens that reference the selected task and phase cannot be viewed by regular ECAS users.
Comment (Buttons) (Multiple)	Create pop-screen to enter comments for the data field(s) on the same line as the button.	No	Pop up screen title references the data field to which the comment applies.

Table 19

4.3 Entering Type of Site Data Using the **FACILITY TYPE Screen**

Overview of screen

This screen is used to select, create or change information describing the type of site for which Operations and Maintenance (OM) or Long Term Surveillance and Monitoring (LTSM) is to be performed. The contaminants of concern at the site and the media comprising the site are entered and displayed on this screen. The scope (type) of the costs applicable to the selected life cycle phase (05 or 06) from the Specify Task Screen is also designated from this screen. The information entered or displayed on this screen applies to all years applicable for the selected phase.

Figure 29 shows the **Facility Type screen** for phases 05 and 06.


Note: Drop Down lists are accessed by clicking on the down arrow on the extreme right of the box and then clicking on the desired item to be selected.

ECAS v 2.1 - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites History Mail Print Edit

Address <https://ecas.netl.doe.gov/ECASFramework.html>



ACE Team
Applied Cost Engineering

Use RA Technologies

OM ECES Elements

OM Disposal Methods

OM Storage Costs

Facility Type

OM Costs by Treatment Train

Back/Specify Task

Select Site Owner

View Reports

Edit

Site Type

OPS Office: TST Task: 1001 Phase: 05 Site Location: Anytown, PA

** indicates a required field*

Site Category: *

Selected Site Category:

Site Type: *

Selected Site Type:

Site Size/Height: UOM:

Site Size/Area: UOM:

Site Size/Volume: UOM:

Site Description:

Site Media:

Site Contaminants:

Depth to Contaminants: UOM:

Figure 29

Table 20

Field and Button Descriptions for the Facility Type Screen:

Field Or Button Name	Description	Required	Remarks
Site Category (List Box)	Select a Site Category to narrow down the Site Type options.	Yes	A '→' proceeding the Site Category name indicates that at least one record exists for that Category.
Selected Site Category (Read-Only)	This displays the specific Site Category that was selected.	NA	
Site Type (List Box)	Select a specific Site Type to be defined for a task.	Yes	A '→' proceeding the Site Type name indicates that a record already exists for that Site.
Selected Site Type (Read-Only)	This displays the specific Site Type that was selected.	NA	
Site Size/Height (Drop Down List)	For the selected Site Type, this field requests the size in length of the site to be remediated or cleaned.	No	There is also a corresponding UOM Drop Down to fully define the Site Size.
Site Size/Area (Drop Down List)	For the selected Site Type, this field requests the size in area of the site to be remediated or cleaned.	No	There is also a corresponding UOM Drop Down to fully define the Site Size.
Site Size/Volume (Drop Down List)	For the selected Site Type, this field requests the size in volume of the site to be remediated or cleaned.	No	There is also a corresponding UOM Drop Down to fully define the Site Size.
Site Description (List Box)	This field provides a more detailed list of site types. This field identifies specific site type characteristics or parameters that may impact cost. The user can select multiple Descriptions at one time.	No	A '→' proceeding the Site Description name indicates that the item is included as one of the multiple selections.
Site Media (List Box)	The type of material or media at the site. This field is more applicable for D&D type work where the building material is an important factor that impact cost of a project.	No	A '→' proceeding the Site Media name indicates that the item is included as one of the multiple selections.

Field Or Button Name	Description	Required	Remarks
	The user can select multiple Media at one time.		
Site Contaminants (List Box)	List of contaminants of concern at the project site. The user can select multiple contaminants at one time.	No	A '→' proceeding the Site Contaminant name indicates that the item is included as one of the multiple selections.
Depth to Contaminants (Input Box)	Field is used to indicate the depth of the contaminant from the ground surface to the top of the contaminated area. This field is to be used with subsurface soil or groundwater contaminated Site Categories.	No	
Comment (Button)	Brings up a pop up screen to enter comments for the particular field.	No	

Table 20

Note: After submitting this screen for update, return to the Specify Task Screen using the Menu Button Bar, then from the Specify Task screen click on the OM Facility Costs button to access the OMFacility Costs screen from which applicable years are selected and corresponding data is entered.

4.4 Selecting and Entering Data for a Specific Year Using the **OM FAC COSTS Screen**.

Overview of screen

This screen is used to:

- Select the Year for which Operations and Maintenance (Phase 5) and Long Term Surveillance (Phase 6) costs are to be entered or displayed.
- If costs are to be manually entered for the entire phase (Entire Facility selected from Facility Type screen) and selected year:
- Enter the applicable costs in the corresponding fields on the screen.
- Enter other parameters if applicable such as the age of the facility, percent down time, volume of waste treated etc.
- Select ECES elements (level 3 only) for all structures, facilities, technologies, and equipment that contributed to the costs entered for the entire phase.
- View costs for a year or a range of years.
- Select the year for which costs are to be displayed and entered on this screen and other screens which are unique for phase 05 and 06. **Figure 30** shows the **OM Facility Costs Screen**.

OM Costs for Entire Facility - Microsoft Internet Explorer

----- **Costs for Entire Facility for year:**

OPS Office: **Task:** **Phase:** **Site Location:**

Years Entered: **View From:** **View To:**

Total Act Cost/yr: **Total Escal Cost/yr:**

Fiscal Years:

Months in Year:

Click For View: **Click To Zero Costs:**

Operating Labor Cost:

Maintenance Labor Cost:

Predictive: % **Corrective:** % **Preventative:** %

Consumables Cost:

Chemicals: % **Materials:** % **Utilities:** % **Other:** %

Misc. Costs: **Cost:**

Age of Facility: Yrs

Percent Down Time: % **Vol. Waste Trt:** **UOM:**

Concentrat. in: **UOM:**

Concentrat. out: **UOM:**

Double Click To Select or Delete:

X-CHOOSE-ONE	<input type="button" value="Up"/>
01.00 PROJECT MANAGEMENT/SUPPORT/INFRASTRUCTUR	<input type="button" value="Down"/>
02.00 PROJECT MANAGEMENT AND SUPPORT	
03.00 PREPARATION OF PLANS AND SPECIFICATIONS	
04.00 STUDIES/DESIGN AND DOCUMENTATION	

List of Selected WBS Elements:

X-None-Selected-X

Figure 30

Note: Drop Down lists are accessed by clicking on the down arrow on the extreme right of the box and then clicking on the desired item to be selected.

Table 21

Field and Button Descriptions for the OMFacility Costs Screen:

Field Or Button Name	Description	Required	Remarks
Years Entered (Read Only)	Display the first and last years for which costs were previously entered	N/A	The range shown may not be contiguous meaning every year in the range may not have costs entered.
View From (Drop Down list)	Enter the first year of a range of years costs will be accumulated for and displayed in the applicable cost fields on the screen. The last year is selected from the View To list. Both years must have costs entered but do not have to be contiguous i.e. 1995 - 1998, costs may not have been entered for 1997.	No	Clicking the View button initiates the accumulation of costs for the range. Clicking the zero button clears the accumulators. This function should not be used to display only one year.
Total Act Cost/yr (Read Only)	This is the total phase cost entered or rolled up for the year selected.	N/A	
Total Escal Cost/yr (Read Only)	This is the total phase cost entered or rolled up for the year selected and adjusted for inflation from the year selected to the current year.	N/A	
View To (Drop Down list)	Enter the last year of a range of years costs will be accumulated for and displayed in the applicable cost fields on the screen. The first year is selected from the View From list. Both years must have costs entered but do not have to be contiguous i.e. 1995 - 1998, costs may not have been entered for 1997.	No	Clicking the View button initiates the accumulation of costs for the range. Clicking the zero button clears the accumulators. This function should not be used to display only one year.
Click For View button	Initiates the accumulation of costs for the range of years selected in by the View From and View To years.	No	Accumulated costs are displayed in applicable screen fields i.e.

Field Or Button Name	Description	Required	Remarks
			Operating Labor Cost, Maintenance Labor Cost etc. No updates to the ECAS database result from using the VIEW button. It is for display purposes only.
Click To Zero (Button)	Clears the accumulation of costs from the applicable screen fields. Used primarily after viewing costs for a range of years with the View button.	No	
Fiscal Year (Drop Down list)	Enter/Display the fiscal year for which Operations and Maintenance (Phase 5) and Long Term Surveillance (Phase 6) costs are to be entered. A > symbol to the left of any year on the list indicates data has been previously entered. Double clicking on a previously entered year will display the applicable costs on the screen for that year. To enter data for a new year, just click on the desired year and enter data in the appropriate fields on the screen.	Yes	To enter data (Phase 5 or 06 only) for a specific year using other ECAS screens such as the OMECES Elements screen, a year must first be selected from this screen.
Months in Year (Drop Down list)	Display/enter the approximate number of months applicable to Operations and Maintenance (Phase 5) or Long Term Surveillance (Phase 6) costs that are to be entered for less than a year.	No	
Operating Labor Cost (Display /Enter)	Enter/display the total direct operating labor cost for the phase and selected fiscal year. Display only if costs are rolled up from ECES Element records	No	
Maintenance Labor Cost (Display /Enter)	Enter/display the total maintenance labor cost for the phase and selected fiscal year. Display only if costs are rolled up (Individual Technologies) from ECES Element records	No	
Predictive (Drop Down list)	Enter/display for the total maintenance cost entered in applicable field, the percent of that cost for predictive maintenance	No	If Maintenance Labor Cost > 0, sum of predictive, preventative, and corrective percents must = 100 %.

Field Or Button Name	Description	Required	Remarks
Corrective % (Drop Down list)	Enter/display for the total maintenance cost entered in applicable field, the percent of that cost for corrective maintenance	No	If Maintenance Labor Cost > 0, sum of predictive, preventative, and corrective percents must = 100 %.
Preventative % (Drop Down list)	Enter/display for the total maintenance cost entered in applicable field, the percent of that cost for preventative maintenance	No	If Maintenance Labor Cost > 0, sum of predictive, preventative, and corrective percents must = 100 %.
Consumables Cost (Display /Enter)	Enter/display the total consumables cost (I.e., chemicals, oil, lubricants, wipes, resins, filters/membranes, electricity, etc) for the phase and selected fiscal year. Display only if costs are rolled up (Individual Technologies) from ECES Element records	Yes	
Chemicals % (Drop Down list)	Enter/display for the total consumables cost entered in applicable field, the percent of that cost for chemicals (acids, bases, oxidants, reductants, chemical cleaners, catalysts, etc.).	No	If Consumables Cost > 0, sum of chemical, materials, utilities, and other percents must = 100 %.
Materials % (Drop Down list)	Enter/display for the total consumables cost entered in applicable field, the percent of that cost for materials (i.e., GAC, ion exchange resins, filters/membranes, concrete, asphalt, wipes, etc.).	No	If Consumables Cost > 0, sum of chemical, materials, utilities, and other percents must = 100 %.
Utilities % (Drop Down list)	Enter/display for the total maintenance cost entered in applicable field, the percent of that cost for utilities (I.e., electric, water, gasoline, communications, etc.).	No	If Consumables Cost > 0, sum of chemical, materials, utilities, and other percents must = 100 %.
Other % (Drop Down list)	Enter/display for the total maintenance cost entered in applicable field, the percent of that cost for other costs that does not fall into other categories.	No	If Consumables Cost > 0, sum of chemical, materials, utilities, and other percents must = 100 %.
Miscellaneous Costs (Drop Down list)	Enter/Display by clicking on any applicable miscellaneous type cost not included in any other cost fields on the screen. Then enter the applicable cost in the <u>Costs</u> field on this screen. Next click on the > box to combine the Type and Cost amount in the display screen field labeled <u>Selected Misc. Costs</u> . Repeat if a second	No	Max of 2 costs can be selected; To delete or remove a cost, first highlight (click mouse) on the desired field in the <u>Selected Misc. Costs</u> displayed list. Then click on the < box. The selected item should

Field Or Button Name	Description	Required	Remarks
	miscellaneous cost is desired		disappear from the selected list.
Age of Structure /Facility/Tech/Equip (Drop Down list)	Enter/Display the age of the structure, facility, technology, or equipment that costs for the phase and year are being entered.	No	
Percent Down vs. Up (Drop Down list)	Enter/display what percent of the time the structure, facility, technology, or equipment is not operating versus time for operation. For example, if the technology operates for 12 hours per day, and is down for four hours (during normal operation hours) then the percent is 33%.	No	
Volume of Waste Treated, Stored, Disposed or Transported (Display /Enter)	For the selected life cycle phase and year, enter/display the initial amount (volume or mass) of waste or contaminated media that is inputted into the system/facility/equipment/ technology for treatment, storage, disposal, or transportation during the timeframe the system is operating in a year.	No	
List of Selected ECES Elements (Drop Down list)	This field can only be accessed if the "Costs Entered by Phase" option was selected for this task and phase. Field is used to select ECES elements (level 3 only) for all structures, facilities, technologies, and equipment that contributed to the phase and year costs entered on the screen. To select an element: 1. Double Click on the desirable level 2 element to get a list of all related level 3 elements. 2. Double click on one or more level 3 elements to be selected. 3. An -> symbol will appear next to any level 3 selected and for the level 2 indicating on or more level 3 is selected. 4. A list of selected level 3 elements will appear in field (window) labeled List of Selected Elements. This window is for display only. 5. To remove any element, double click on the applicable level 3 element. The -> symbol should disappear. If all level 3 elements are removed for a level 2 element, the	No	The elements selected apply to all years for the applicable life cycle phase and task. Once entered and submitted, the selected elements will appear on this screen for all subsequent years entered.

Field Or Button Name	Description	Required	Remarks
	symbol will automatically be removed from the level 2. 6. Click on the Submit button at the bottom of the screen to update the database for the selected elements. If other information is still to be entered on the screen, click on the Submit after all screen data has been entered.		

Table 21

4.5 Entering data for ECES (Work Breakdown Structure) Elements for Life Cycle Phases 05 and 06 using the generic OM ECES ELEMENTS Screen (excludes 11.XX, 12.XX, and 13.XX ECES Elements)

The **OM ECES STRUCTURE Screen** must be used to access the generic **OM ECES ELEMENTS Screen** for any ECES element (work break down structure item). This **must** be used to access the above screen and **may** be used to access the special function 11.XX, 12.XX and 13.XX ECES Elements screens. To use this screen:

1. Click on the Menu Button bar labeled OM ECES Structure to bring up the full ECES structure.
2. Only Level 2 elements initially appear. Clicking on the title will display the OM ECES Element screen for the level 2 element.
3. A list of level 3 elements (for a specific level 2 element) can be obtained by clicking on the plus sign to the left of the ECES level.
4. The ECES Element screen for any level 3 element can be accessed by clicking on the its title.
5. A plus sign to the left of any level 3 element indicates it can be broken down into level four elements by clicking on the plus sign.
6. In similar way, level four elements can be broken down into level elements.
7. In all cases, clicking on its title generates the applicable ECES Element screen

Overview of the generic OM ECES ELEMENTS Screen

This screen is used to: Enter/Display costs and secondary parameter data by fiscal year for any technology, service or facility defined by any level 2, 3, 4 or 5 ECES element (except 11.XX, 12.XX, 13.XX, 21 – 30.XX, 34.XX elements). **Figure 31** shows a portion of the **OM ECES ELEMENT Screen**

ECAS v 2.1 - Microsoft Internet Explorer

OPS Office: TST Task: 1000AB Phase: 06 Site Location: Bruceton, PA

ACE Team
Applied Cost Engineering

Use RA Technologies

OM ECES Elements

OM Disposal Methods

OM Storage Costs

Facility Type

OM Costs by Treatment Train

Back/Specify Task

View Reports

Exit

ECES for Phase = 06 and Year = 1999 [Comment](#)

+ .02 .00 .00 .00	PROJECT MANAGEMENT AND SUPPORT	\$0
+ .03 .00 .00 .00	PREPARATION OF PLANS AND SPECIFICATIONS	\$0
+ .04 .00 .00 .00	STUDIES/DESIGN AND DOCUMENTATION	\$0
+ .05 .00 .00 .00	SITE WORK	\$0
+ .06 .00 .00 .00	SURVEILLANCE AND MAINTENANCE	\$0
+ .07 .00 .00 .00	INVESTIGATIONS AND MONITORING/SAMPLE COLLECTION	\$0
+ .08 .00 .00 .00	SAMPLE ANALYSIS	\$0
+ .09 .00 .00 .00	SAMPLE MANAGEMENT/DATA VALIDATION/DATA EVALUATION	\$0
+ .11 .00 .00 .00	TREATMENT PLANT/FACILITY (Balance of Plant)	\$0
+ .12 .00 .00 .00	STORAGE FACILITY	\$0
+ .13 .00 .00 .00	DISPOSAL FACILITY	\$0
+ .15 .00 .00 .00	DRUMS/TANKS/STRUCTURES/MISCELLANEOUS DEMOLITION AND REMOVAL	\$0
+ .16 .00 .00 .00	AIR POLLUTION/GAS COLLECTION AND CONTROL	\$0
+ .17 .00 .00 .00	SURFACE WATER/SEDIMENTS CONTAINMENT, COLLECTION, OR CONTROL	\$0
+ .18 .00 .00 .00	GROUNDWATER CONTAINMENT, COLLECTION, OR CONTROL	\$0
+ .19 .00 .00 .00	SOLIDS/SOILS CONTAINMENT (e.g., Capping) COLLECTION, OR CONT	\$0
+ .20 .00 .00 .00	LIQUID WASTE/SLUDGE (e.g., UST/AST) CONTAINMENT, COLLECTION,	\$0
+ .21 .00 .00 .00	IN SITU BIOLOGICAL TREATMENT	\$0
+ .22 .00 .00 .00	EX-SITU BIOLOGICAL TREATMENT	\$0
+ .23 .00 .00 .00	IN-SITU CHEMICAL TREATMENT	\$0
+ .24 .00 .00 .00	EX-SITU CHEMICAL TREATMENT	\$0
+ .25 .00 .00 .00	IN-SITU PHYSICAL TREATMENT	\$0

Start | ECAS v 2.1 - Microsoft Int... | ECAS v 2.1 - Microso... | Microsoft Word - OM costs... | 11:23 AM

Figure 31

Note: Drop Down lists are accessed by clicking on the down arrow on the extreme right of the box and then clicking on the desired item to be selected.

Table 22

Field and Button Descriptions for the OM ECES Elements Screen:

Field Or Button Name	Description	Required	Remarks
Fiscal Year (Drop Down)	Display the fiscal year for which costs and secondary parameter data are to be entered.	Yes	To select a different year, the OM Facility Costs Screen must be used.
Months in Year (Drop Down list)	Display/enter the approximate number of month's costs and secondary parameter data are to be entered for less than a year.	No	
Operating Labor Cost (Display /Enter)	Enter/display the total direct operating labor cost for the selected year.	No	If the "Submit with Costs = 0" radio button on the lower left side of the screen indicates "No", then at least one of the "cost" fields must be > 0.
Maintenance Labor Cost (Display /Enter)	Enter/display the total maintenance labor cost for the selected year.	No	If the "Submit with Costs = 0" radio button on the lower left side of the screen indicates "No", then at least one of the "cost" fields must be > 0.
Consumables Cost (Display /Enter)	Enter/display the total consumables cost (I.e., chemicals, oil, lubricants, wipes, resins, filters/membranes, electricity, etc) for the selected year.	Yes	If the "Submit with Costs = 0" radio button on the lower left side of the screen indicates "No", then at least one of the "cost" fields must be > 0.
Miscellaneous Costs (Drop Down list)	Enter/Display by clicking on any applicable miscellaneous type cost not included in any other cost fields on the screen. Then enter the applicable cost in the <u>Costs</u> field on this screen. Next click on the > box to combine the Type and Cost amount in the display screen field labeled <u>Selected Misc. Costs</u> . Repeat if a second miscellaneous cost is desired	No	Max of 2 costs can be selected; To delete or remove a cost, first highlight (click mouse) on the desired field in the <u>Selected Misc. Costs</u> displayed list. Then click on the < box. The selected item should disappear from the selected list.

Field Or Button Name	Description	Required	Remarks
Age of Structure /Facility/Tech/Equip (Drop Down list)	Enter/Display the age of the structure, facility, technology, or equipment that costs and secondary parameters reference	No	
Percent Down vs. Up (Drop Down list)	Enter/display what percent of the time the structure, facility, technology, or equipment is not operating versus time for operation. For example, if the technology operates for 12 hours per day, and four hours is down, (during a normal operation hours) then the percent is 33%.	No	
Volume of Waste Treated, Stored, Disposed or Transported (Display /Enter)	For the selected year, enter/display the initial amount (volume or mass) of waste or contaminated media that is inputted into the system /facility/equipment/ technology for treatment, storage, disposal, or transportation during the timeframe the system is operating in a year.	No	
Concentration In (Display /Enter)	For the selected year, enter/display the average total concentration of hazardous contaminants in the influent for the system /facility/equipment/ technology for treatment, storage, disposal, or transportation during the timeframe the system is operating in a year.	No	
Concentration Out (Display /Enter)	For the selected year, enter/display the average total concentration of hazardous contaminants in the effluent. This will most likely be the regulatory clean-up level for the hazardous constituents for the system /facility/equipment/ technology for treatment, storage, disposal, or transportation during the timeframe the system is operating in a year. .	No	

Table 22

5.0 ECAS **SECONDARY** DATA ENTRY FUNCTIONS FOR LIFE CYCLE PHASES 05 AND 06

Several Special Screen Formats exist for Entering ECES Elements and Secondary Parameters

5.1 **OM COSTS BY TREATMENT TRAIN** (SCREEN FOR OM ECES 11.XX, 21 – 30.XX, and 34.XX elements).

An abbreviated OM **ECES Structure** screen may be used to access the **OM Costs by Treatment Train Screen** for any applicable ECES Element (work break down structure item) referenced in section 5.1.1. **Figure 31** shows this screen. To use this screen, see section 4.5.

5.2 Overview of the **OM COSTS BY TREATMENT TRAIN Screen**

This screen is used to:

Enter/Display costs and secondary parameter data by fiscal year for any technology, service, or facility defined by 11.XX, 21 – 30.XX, and 34.XX. level 2, 3, 4 or 5 ECES element. **Figure 32** contains a view of the **OM COSTS BY TREATMENT TRAIN Screen**

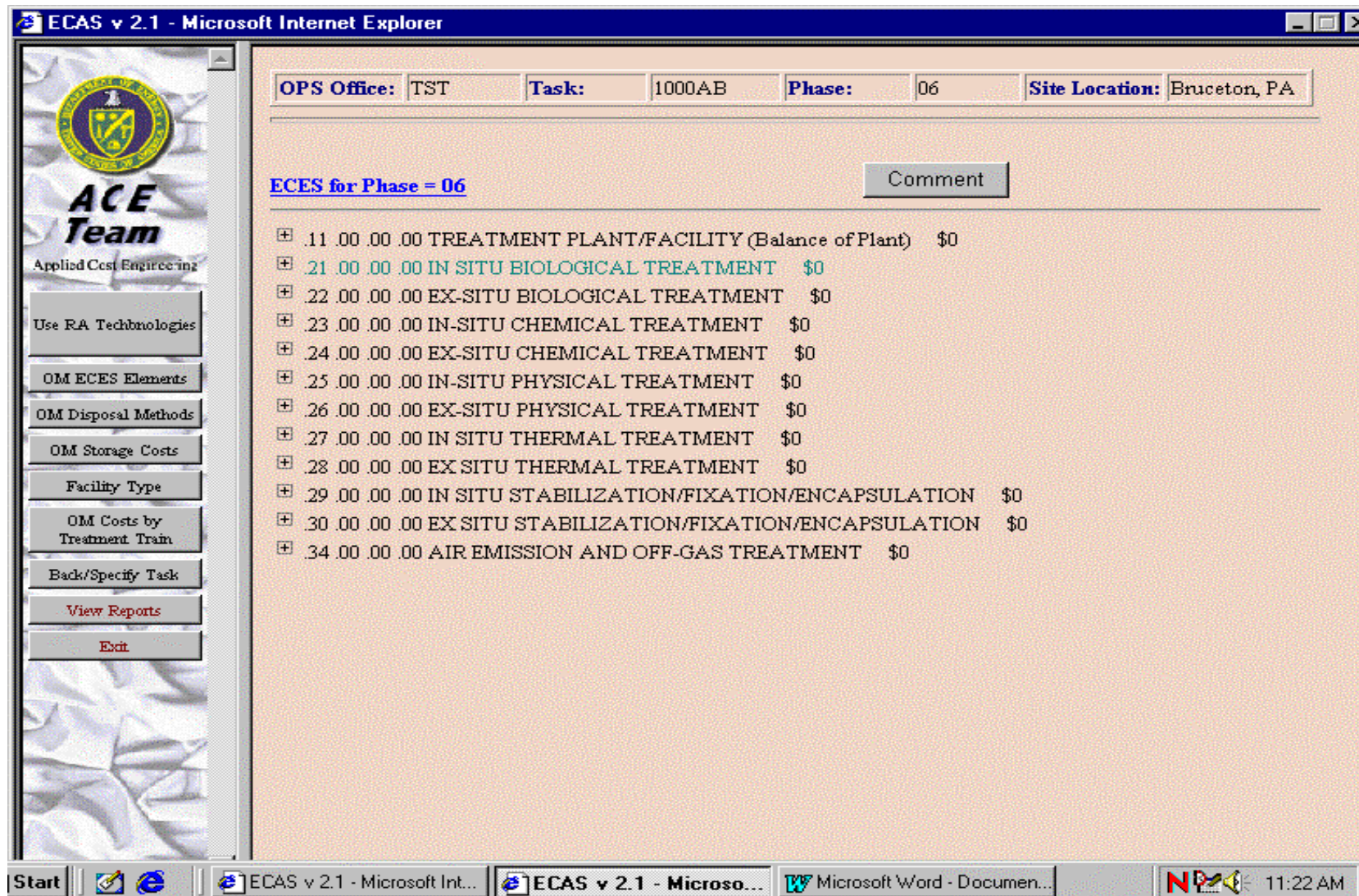


Figure 32

Note: Drop Down lists are accessed by clicking on the down arrow on the extreme right of the box and then clicking on the desired item to be selected.

Table 23

Field and Button Descriptions for the OM Costs by Treatment Train Screen:

Field Or Button Name	Used for	Required	Remarks
Fiscal Year (Drop Down)	Display the fiscal year for which costs and secondary parameter data are to be entered.	Yes	To select a different year, the OMFacility Costs Screen must be used.
Months in Year (Drop Down list)	Display/enter the approximate number of month's costs and secondary parameter data are to be entered for less than a year.	No	
Operating Labor Cost (Display /Enter)	Enter/display the total direct operating labor cost for the selected year.	No	If the "Submit with Costs = 0" radio button on the lower left side of the screen indicates "No", then at least one of the "cost" fields must be > 0.
Maintenance Labor Cost (Display /Enter)	Enter/display the total maintenance labor cost for the selected year.	No	If the "Submit with Costs = 0" radio button on the lower left side of the screen indicates "No", then at least one of the "cost" fields must be > 0.
Consumables Cost (Display /Enter)	Enter/display the total consumables cost (I.e., chemicals, oil, lubricants, wipes, resins, filters/membranes, electricity, etc) for the selected year.	Yes	If the "Submit with Costs = 0" radio button on the lower left side of the screen indicates "No", then at least one of the "cost" fields must be > 0.
Age of Structure /Facility/Tech/Equip (Drop Down list)	Enter/Display the age of the structure, facility, technology, or equipment that costs and secondary parameters reference	No	
Percent Down vs. Up (Drop Down list)	Enter/display what percent of the time the structure, facility, technology, or equipment is not operating versus time for operation. For example, if the technology operates for 12 hours per day, and four hours is down, (during a normal operation	No	

Field Or Button Name	Used for	Required	Remarks
	hours) then the percent is 33%.		
Volume of Waste Treated, Stored, Disposed or Transported (Display /Enter)	For the selected year, enter/display the initial amount (volume or mass) of waste or contaminated media that is inputted into the system /facility/equipment/ technology for treatment, storage, disposal, or transportation during the timeframe the system is operating in a year.	No	
Concentration In (Display /Enter)	For the selected year, enter/display the average total concentration of hazardous contaminants in the influent for the system /facility/equipment/ technology for treatment, storage, disposal, or transportation during the timeframe the system is operating in a year. .	No	
Concentration Out (Display /Enter)	For the selected year, enter/display the average total concentration of hazardous contaminants in the effluent. This will most likely be the regulatory clean-up level for the hazardous constituents for the system /facility/equipment/ technology for treatment, storage, disposal, or transportation during the timeframe the system is operating in a year.	No	

Table 23

OM Storage Costs (**SCREEN FOR ALL 12.XX ECES ELEMENTS**) and OM Disposal Methods (**SCREEN FOR ALL 13.XX ECES ELEMENTS**)

Abbreviated **OM ECES STRUCTURE Screens** may be used to access the OM Storage Costs screen and the OM Disposal Methods screen. **Figures 35 and 36** show respective screens for these functions. To use these screens see section 4.5.

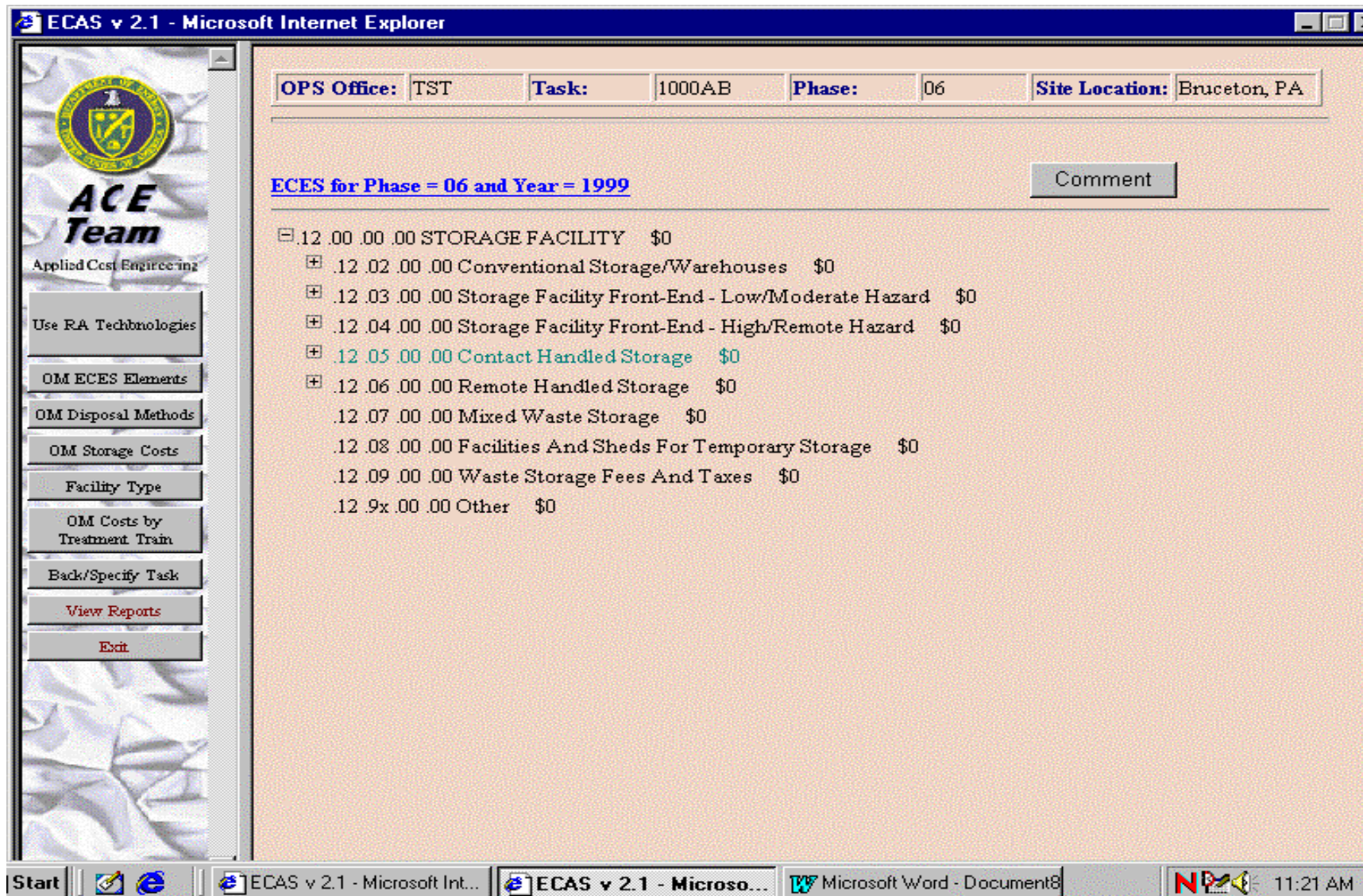


Figure 33

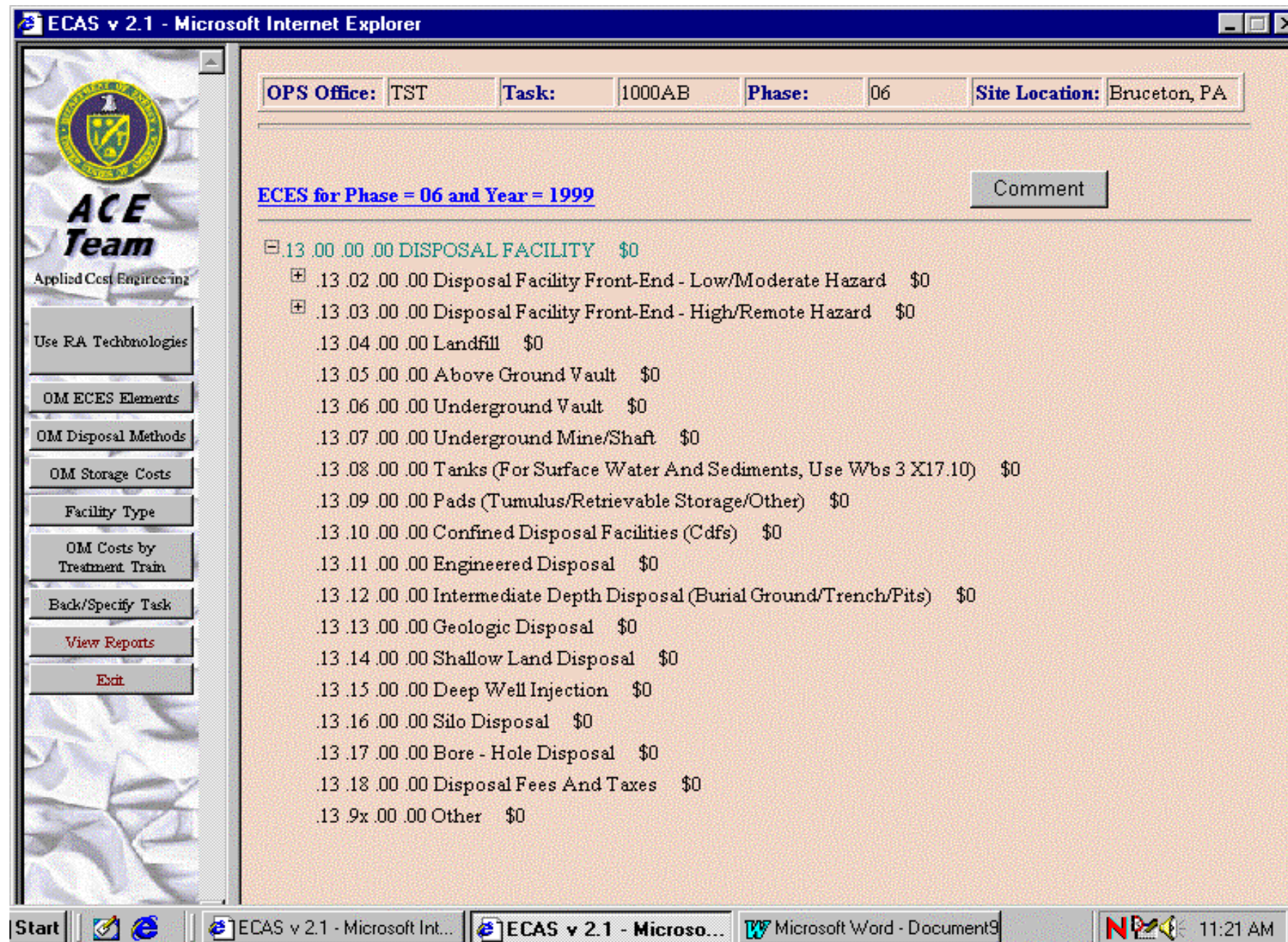


Figure 34

Overview of the OM Storage Costs and OM Disposal Methods screens.

These screens are used to:

Enter/Display costs and secondary parameter data by fiscal year for any technology, service or facility defined by 12.XX (OM Storage Costs) and 13.XX (OM Disposal Methods) ECES elements.

Field and button descriptions for the OM Storage Costs and OM Disposal Methods screens.

Note: Drop Down lists are accessed by clicking on the down arrow on the extreme right of the box and then clicking on the desired item to be selected.

Table 24

Field and Button Descriptions for the OM Storage Costs and OM Disposal Methods Screens:

Field Or Button Name	Description	Required	Remarks
Fiscal Year (Drop Down)	Display the fiscal year for which costs and secondary parameter data are to be entered.	Yes	To select a different year, the OMFacility Costs Screen must be used.
Months in Year (Drop Down list)	Display/enter the approximate number of month's costs and secondary parameter data are to be entered for less than a year.	No	
Operating Labor Cost (Display /Enter)	Enter/display the total direct operating labor cost for the selected year.	No	If the "Submit with Costs = 0" radio button on the lower left side of the screen indicates "No", then at least one of the "cost" fields must be > 0.
Maintenance Labor Cost (Display /Enter)	Enter/display the total maintenance labor cost for the selected year.	No	If the "Submit with Costs = 0" radio button on the lower left side of the screen indicates "No", then at least one of the "cost" fields must be > 0.
Consumables Cost (Display /Enter)	Enter/display the total consumables cost (I.e., chemicals, oil, lubricants, wipes, resins,	Yes	If the "Submit with Costs = 0" radio button on the lower left side of the

Field Or Button Name	Description	Required	Remarks
	filters/membranes, electricity, etc) for the selected year.		screen indicates “No”, then at least one of the “cost” fields must be > 0.
Miscellaneous Costs (Drop Down list)	Enter/Display by clicking on any applicable miscellaneous type cost not included in any other cost fields on the screen. Then enter the applicable cost in the <u>Costs</u> field on this screen. Next click on the > box to combine the Type and Cost amount in the display screen field labeled <u>Selected Misc. Costs</u> . Repeat if a second miscellaneous cost is desired	No	Max of 2 costs can be selected; To delete or remove a cost, first highlight (click mouse) on the desired field in the <u>Selected Misc. Costs</u> displayed list. Then click on the < box. The selected item should disappear from the selected list.
Location/Facility Type (Drop Down list)	Enter/Display the location or facility type of where the wastes are being disposed of. Examples include Nevada Test Site, WIPP, underground vaults, landfills, etc.	No	
Distance to Facility (Display /Enter)	Enter/display one way distance in mile from the contaminant source to the treatment, disposal, or storage facility	No	Use tenths for distances < 1 mile.
Packaging Type (Drop Down list)	Enter/display the packaging type used for the waste, contaminated material, or other materials. The package type can be just one type or a combination of types for different media, contaminant, or concentrations	No	
Commercial Disposal (Checkbox)	Enter/display the type of commercial disposal costs included in any of the costs shown on the screen.	No	Multiple selections permitted
Transportation Mode (Checkbox)	Enter/display mode/s of transportation (i.e., air, water, rail, or truck) used to move contaminated media from the site to the disposal or storage facility/structure/location. The transportation mode can be just one mode or a combination of modes.	Yes	Multiple selections permitted; min of 1 required.

Table 24

5.3 Using the **RA (Remedial Action) TECHNOLOGIES FOR OM COSTS** Screen.

This screen is accessed by clicking on the RA Technology Menu button bar

An abbreviated OM **ECES Structure** screen containing all of the ECES elements entered for phase 04 (Remedial Action) appears as **Figure 35**.



Figure 35

Overview of the RA (Remedial Action) TECHNOLOGIES FOR OM COSTS Screen.

This screen is used to:

1. Expedite the selection of ECES elements that data may be entered for in phase 05 or 06. The assumption is that OM (Operation and Maintenance) and Long term Surveillance of facilities and technologies built and installed in the remedial action phase may be required for phase 05 and/or 06.
2. Access the generic OM ECES Elements screen to enter costs and secondary parameter data for any selected RA element. Refer to section 4.5.1 for guidance in using ECES Structure screens to access ECES elements and corresponding screens.

Note: Use of this screen to select ECES elements for 05 and 06 is optional. Other methods included in previous sections may be used.

6.0 ACCESSING AND VIEWING THE REPORTS

6.1 Report Overview

1. Click on the “View Reports” button in the menu bar on the left hand side of the screen. This button is accessible at any point in the system from the time you log on.
2. Select “Level Two Summary” in the first drop down (that for “Report Type”).
3. Select “Test Operations” in the second drop down (that for “Operations Office”).
4. Select the task that you created previously in the third drop down (that for “Task”).
5. At this point, all of the optional parameters become enabled. For now, ignore them and scroll to the bottom of the screen.

6. Click on the “View Report” button on the bottom left hand side of the screen.
7. The report viewer will appear in the browser window and will display the first page of the report generated for the ECES elements that you entered previously. To scroll up and down the page, click on the scrollbar inside the report viewer. To move to the next page of the report, click on the right arrow button at the top of the report viewer (not the one with the arrow pointing at a line). The report viewer also has the capability of zooming in and out on the report, searching for a string of text in the report, exporting the report to a different format, and printing it.
8. After viewing the report, click in the main browser window outside the report viewer and scroll to the bottom of the screen and click on the “Return to Parameter Selection” button.
9. Select “Level Three Detail” for the report type in the first drop down.
10. Repeat steps 3-8.
11. After viewing the detail report, return to the parameter screen, select an optional parameter or two, and view the new report. Keep in mind that the more parameters you select, the less records will appear. If there are no records that meet the selected criteria, a blank report will appear.
12. When you are done, click on the “Close Reports” button on either the parameter selection screen or the report viewer screen.

Parameter Screen - Microsoft Internet Explorer

Base the report on the following required parameters:

Report Type:

Operations Office:

Task:

Optional Parameters:

Phase (leave everything unselected to view all existing phases):

- ☐ Phase 1 (Assessment)
- ☐ Phase 2 (Studies/Characterization)
- ☐ Phase 3 (Design)
- ☐ Phase 4 (Remedial Action/Construction)
- ☐ Phase 5 (Operations and Maintenance)
- ☐ Phase 6 (Surveillance and Long Term Maintenance)
- ☐ Phase 8 (Program Management)

Start | Group... | Mail Fr... | Micros... | Mail T... | ECAS ... | ECAS ... | Para... | 9:42 AM

Figure 36

Appendix A-1

A brief description of the Environmental Cost Element Structure (ECES)

A-1.0 BACKGROUND:

As more environmental projects are initiated, especially projects that involve radioactivity, Environment Management EM needs to start collecting project data so other sites can learn from experiences of similar past projects. Within the Field Offices & across the complex, current accounting & program management systems make it difficult to track or manage project cost & progress in a structured manner. Within EM, there is no standardized method or guidance on what cost data should be collected, to what level of detail, or how to collect & maintain the data. Consequently, information collected by Field Offices cannot be readily used by other sites. ECES was developed to provide a consistent and standardized method and “language” so that cost data available is more useful.

A-2.0 WHAT IS ECES:

The Interagency Environmental Cost Engineering Committee (EC)² developed ECES. (EC)² members include DOE, Navy, Air Force, EPA, and Army Corps of Engineers. ECES is an enhancement to the existing Hazardous, Toxic, and Radioactive Waste - Work Breakdown Structure (HTRW-WBS). ECES is a hierarchical list of elements that may be required to accomplish environmental projects. ECES is comprised of activities conducted throughout the life cycle of a program or project. In developing the ECES, (EC)² reviewed cost structures currently or previously in use at various Federal Agencies. ECES was developed to be used as a Work Breakdown Structure or Code of Accounts.

A-3.0 WHAT ARE WBS AND COA?

A-3.1 The WBS

The Work Breakdown Structure (WBS) identifies and hierarchically structures activities to be performed in a project. WBS segments projects into manageable units that can be used for planning, scheduling, and progress tracking. WBS shows the relationship of all elements within a project.

A-3.2 The COA

A Code of Account (COA) structure is a logical breakdown of a project into controllable elements for the purpose of cost collection, control, and reporting. COA is organized at lower detailed levels that can be summarized to higher levels. COA is company and project specific.

A-3.3 Differences between the WBS and COA

Although the numbering system for WBS and COA differs, a relationship and correlation exists between COA and WBS. Both WBS and COA are based on systems that increase in detail as levels increase. A common purpose of both is to capture, track and control cost data in a project.

A-4.0 HOW ECES IS ORGANIZED

A-4.1 General Information

ECES consists of comprehensive list of elements (tasks, items or products) required to accomplish an environmental project. ECES is organized in hierarchical levels where the lower level detailed data are summarized to upper, higher levels. It is recommended by (EC)² that, at a minimum, users report to Level 3 of ECES. As the Level numbers increase, the more the details are included at each level

A-4.2 *Explanation of the Levels*

Each level of the ECES is represented by a column

- First column is Level 1 elements,
- Second column is Level 2 elements
- Third column is Level 3 elements

- Etc.

When writing the ECES number, each column is separated by a period. *For example:* **X . xx . xx . xx**

A-4.3 *Numbering* of Levels

Level 1	Level 2	Level 3	Level 4	Level 5
1	1	1	1	1
2	2	2	2	2
3	3	3	3	3
4	4	4	4	4
5	.	5	5	5
6
8
	90	90	90	90
	.9x	.9x	.9x	.9x
X .	XX .	XX .	XX .	XX

A-5.0 MAJOR ELEMENTS OF LEVEL 1

A-5.1 Level 1 is the uppermost tier (I.e. highest level), and includes seven cost categories. It consists of six phases (Phases 1 to 6) of an environmental project and a category for program or cross-cutting costs (Phase 8). Level 1 elements are also called ***Phases***. Level 1 represents the time frame as to when the project or activity is occurring.

A-5.2 The six generic life-cycle phases of Level 1 are:

- Phase 1: Assessment
- Phase 2: Studies
- Phase 3: Design
- Phase 4: Capital Construction
- Phase 5: Operations and Maintenance

- Phase 6: Surveillance and Long-Term Maintenance

A-5.3 Level 1 Cost Categories

These Level 1 categories are generic and apply to all environmental programs, including D&D. There are minor variations in definition from environmental restoration (ER) projects conducted under CERCLA, to projects under RCRA, or Waste Management (WM), and D&D. The similarity in the processes between various environmental projects/programs are shown next

A-5.3.1 Phase 1 - Assessment phase includes:

Assess and inspect site, and prepare site inspection report

Comprised of activities such as:

- CERCLA Preliminary Investigation/Site Investigation (PA/SI)
- RCRA Facility Assessment (RFA)
- Preliminary Planning for waste and special material operations
- Pre-Decommissioning actions and planning

A-5.3.2 Phase 2 - Studies include:

Characterization, investigations, risk assessment, development and evaluation of treatment or remedial options, and treatability studies

For Example:

- CERCLA Remedial Investigation and Feasibility Studies (RI/FS)
- RCRA Facility Investigation/Corrective Measure Study (RFI/CMS)
- Pre-conceptual Design/Research and Development

A-5.3.3 Phase 3 - Design consists of:

Engineering design and pre-construction activities of treatment or remediation alternatives

Examples include:

- CERCLA Remedial Design (RD)
- RCRA - Design portion of Corrective Measures
- Waste Management Facility Design

- Decommissioning and Dismantlement Design

A-5.3.4

Phase 4 - Capital Construction

Includes construction of selected treatment or remediation alternatives. Phase 4 costs also include start-up and testing, but exclude all operations.

Examples include:

- CERCLA Remedial Action (RA)
- RCRA Corrective Measure activities
- Waste Management Facility construction
- Decommissioning and Dismantlement construction

A-5.3.5

Phase 5 - Operations and Maintenance

Includes all operations and maintenance for the selected treatment or remediation alternatives. Phase 5 ends when clean-up or waste treatment goals are met.

Examples include:

- CERCLA technology or remediation operations and maintenance
- RCRA Facility O&M
- Waste Management facility O&M
- Decommissioning and Dismantlement O&M

A-5.3.6

Phase 6 - Surveillance and Long-Term Maintenance

Phase 6 starts when operations have ceased or maintenance of a shutdown facility begins

Examples include:

- Post closure surveillance and long term monitoring
- On-site storage/disposal facility surveillance and long term monitoring
-

A-5.3.7

The cross-cutting Level 1 element is Phase 8 - Program Management, Support and Infrastructure
This includes those elements that are covered by the whole site or program and the cost cannot be readily segregated into projects.

A-5.4 Level 1 – Example

During a characterization and investigation effort, it was determined that some roads will need to be constructed to get to the site. What Level 1 phase would this fall into? How is it numerically represented?

- Because the road construction occurred during **Studies** - characterization and investigation time period, this work will be recognized at Level 1- Phase 2.
- Numerically, this is represented as **2.xx.xx.xx** (where xx represents element numbers).

A-6.0 ECES SUB-PROJECT IDENTIFIER

A Sub-Project Identifier:

- Is between Level 1 and Level 2 of the ECES, this is an optional level category
- Is an optional field and not all projects may have a sub-project.
- Example use of sub-project identifier includes: The project scope consists of construction of same type of RCRA C Caps (4.19.04) over three different ponds located in close proximity. To distinguish the caps for the three ponds the letters a, b, and c can be used with ECES such as 4.a.19.04, 4.b.19.04 and 4.c.19.04.

A-7.0 MAJOR ELEMENTS OF LEVEL 2

A-7.1 General

Level 2 represents major elements necessary to perform environmental work. There are 34 elements in ECES. Whereas Level 1 represents the timeframe of when the activity is occurring, Level 2 and lower levels show what tasks or activities are being conducted. Level 2 elements are identified in the second column or the second set of numbers in the ECES number system. Level 2 elements description and definitions have been developed by the (EC)² for the most likely phases.

A-7.2 Level 2 example:

The Level 2 element number 11, Treatment Plant/Facility has the numbers 4 and 5 marked in the Level 1 columns. This indicates that Phase 4 and Phase 5 are the most likely phases when Treatment Plant/Facility activity will be performed. The applicable phase numbers marked are for guidance only. If applicable, users may use phases that are not marked.

A-8.0 SPECIFIC ELEMENTS OF LEVEL 3

Level 3 consists of more detailed elements required to perform the tasks at Level 2 of ECES. Level 3 activities summarize to Level 2 elements.

A-9.0 LEVEL 4 AND BELOW

Use of Level 4 and more detailed elements are optional. Level 4 elements have been developed for some ECES components; however, Level 4 elements have **not** been developed for the environmental technologies (ECES elements x.21 to x.30). It is up to the individual agencies or organizations to develop or use Level 4 elements for environmental technologies as long as these elements roll-up to the generic Level 4 technology definitions provided.

A-9.1 Specific elements of Phase 4: *Capital Construction*

- 4.xx.xx.01 **Technology Transportation and Setup** – Includes transportation, delivery and setup of equipment necessary to construct and install a treatment technology. This element is also known as “Freight on Board.”
- 4.xx.xx.02 **Equipment and Components** – Includes process equipment and components; initial construction or installation of treatment technology components and materials; initial cost of technology parts and supplies, and other treatment costs inherent to that technology. For example, cost of off-gas treatment and components in an in-situ vitrification process.
- 4.xx.xx.03 **Start-up and Testing** – Includes activities associated with start-up and testing of treatment technologies such as testing to demonstrate compliance, establishment of operating parameters, shakedown and training of O&M personnel. Startup and testing is considered complete when technology operations can be sustained within specified operational and quality standards.
- 4.xx.xx.9x **Other** - This element is provided to allow the user to include an element for items or activities that are not addressed elsewhere.

A-9.2 *Specific elements of Phase 5: Operations and Maintenance*

- 5.xx.xx.01: Performance Testing and Analysis – Includes the monitoring, sampling, testing, and analyzing of costs to demonstrate the technology is performing as designed.
- 5.xx.xx.02: Operations – Includes personnel and equipment necessary to operate the treatment technology.
- 5.xx.xx.03: Consumables – Includes the materials and supplies used in operations of the treatment technology.
- 5.xx.xx.04: Utilities – Includes the energy costs for operating the treatment technology.
- 5.xx.xx.05: Maintenance – Includes the labor and materials necessary to perform preventive and corrective maintenance.
- 5.xx.xx.9x: Other – This element is provided to allow the user to include an element for items or activities that are not addressed elsewhere.

A-9.3 Specific elements of .9x - Other Elements

ECES considers all possible tasks and non-standard elements by including the “Other” items at Level 3 and lower levels. The “Other” items are designated by the number .9x. There are ten possible “Other” elements that can be designated for Level 2 and 3 elements

A-10.0 HOW TO USE ECES

- **Step 1** - Identify the phase or phases when the work will be performed
- **Step 2** - Identify those activities that need to be or will be performed
- **Step 3** - Use the ECES as a checklist to identify additional activities
- **Step 4** - For the activities identified, assign the appropriate ECES number to each element

A-11.0 CAVEATS AND EXCEPTIONS

As mentioned before, ECES evolved from HTRW WBS. (EC)² required compatibility to HTRW WBS in the development criteria, including a crosswalk to both systems for those organizations are still using the HTRW WBS. Because of this requirement, there are some elements in ECES that do not follow typical conventions. It is strongly encouraged that users of ECES read the dictionary and the definition of the tasks to become familiar with what costs or elements are included or not included. The dictionary will also explain what other elements can be used as substitutes or covers similar activities.

Caveat 1: Some elements defined in different phases are performing the same activities and, for some elements, different phases have different functions. For example:

- Element x.02.04, Institutional Controls, for Phases 1 to 4, the element is defined as the installation or construction of the task. During Phase 5 and 6, the activity is defined as the cost of maintaining and repairing the structures.
- However, for element such as X.17.01, the same activity is being performed for the different phases. The cost of element in each phase include capital and O&M in one element.

Caveat 2: Because of the limitation in the numbers and characters that can be used, the level of detail between elements are not the same. For example:

- Element X.05.17, Sitework, Sidewalks is not of the same level of detail as X.24.01, Glycolate/Alkali Metal//Polyethylene Glycol (A/PEG)

Caveat 3: Users of ECES must carefully read the dictionary because there are some elements with very similar names. For example:

- Element X.25.04 is named Cryogenics (Frozen Soil Barrier) and X.26.42 is titled Cryogenics, but they are different technologies
- Element X.25.07 and X.25.08 have similar names also
- Because some technologies are applicable in both in-situ and ex-situ conditions, some elements have the same name and similar definitions (I.e. Skimming, SVE, Soil Flushing and others).

Caveat 4: Some of the elements (x.21 to x.31) do not have details below Level 3. In some instances, it is difficult to determine if the component is part of a technology or should be captured by another element. Because it is not clearly identified, this can cause duplication or omission of costs. For example:

- Element x.29.04, In-situ Vittrification (ISV) - Is the Granular Activated Carbon used to treat off-gas part of ISV cost or should it be captured separately?

- (EC)² recommends that if the equipment or component is integral to that technology, it should be considered part of the ECES element cost

Note: Users need to be careful to not duplicate or omit cost.

A-12.0 ECAS

While the ECES provides the foundation and structure for a standardized cost format and definition, there still must be a system to collect, analyze, maintain, and distribute this data. The Environmental Cost Analysis System (ECAS) is being developed to accomplish this task. ECAS is a database and an analysis tool that will assist DOE in better understanding those parameters that impact EM project costs. ECAS will perform searches, and readily provide reports and data needed for future estimating, project planning, and benchmarking. ECAS will be used with ECES to better establish a consistent and standardized system that will provide the ability to compare estimates/costs with other projects and programs across the DOE complex.

A-13.0 UPDATING THE ECES

As new technologies are developed and as work elements change, the ECES will need to be updated. Agencies or other organizations can propose additional elements for modification to the ECES by submitting suggested revisions directly to the agency or through the web at <http://www.em.doe.gov/aceteam>. (EC)² will conduct a review of these recommendations and update the ECES annually.